Alcatel-Lucent 1665

Data Multiplexer (DMX) | Release 1.0 - 10.0

Engineering and Ordering Information

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Legal Notice

Conformance statements

Federal Communications Commission (FCC) Part 15 Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protections against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's expense.

Security statement

In rare instances, unauthorized individuals make connections to the telecommunications network through the use of remote access features. In such an event, applicable tariffs require that the customer pay all network charges for traffic. Alcatel-Lucent cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

Limited warranty

Alcatel-Lucent provides a limited warranty for this product. For more information, consult your local Alcatel-Lucent customer support team.

About This Document

The Alcatel-Lucent 1665 Data Multiplexer was formerly known as the Metropolis® DMX Access Multiplexer. A transition period updated the name and company logo on the components of this product.

DMX abbreviates the Alcatel-Lucent 1665 Data Multiplexer system in this document. ED8C871-10

describes DMX orderable items to support the DMX Applications and Planning Guide (APG). The APG describes all DMX architecture, technical specifications and customer service details. See also ED8C871-20 for DMX cable signal and color code connections and the DMX Installation Manual for complete details.

Ordering Documents

Check latest issues and order Alcatel-Lucent documents at Online Customer Support (OLCS): https://support.lucent.com

To comment on this document, see the Online Comment Form at:
http://infodoc.alcatel-lucent.com/comments/enus/
or e-mail your comments to the Comments Hotline: comments@alcatel-lucent.com

For assistance, call Customer Support Services at 1-866-582-3688

Issue Notes

Issue 44, September 2013
Updated for R10.0. Removed discontinued codes.

Issue 43, August 2012
Updated for R9.0. Removed discontinued codes.

Issue 42, July 26, 2010
Added R9.0 software, hardware, documentation and kits. Removed discontinued codes.

Issue 41, February 26, 2010
Added R8.0.4 software, documentation and kits. Changed 735C back to 735A.
Removed discontinued fibers from Table D.
Updated - Note 9, cable test pack kits, power cable descriptions, discontinuing codes.

Issue 40, September 18, 2009
Added R8.0.2, R8.0.3 software, documentation and kits.
Added RJ45/ground note to 10/100 MbE Fast Ethernet cables. Updated Note 9 with resource for optical fibers, attenuators etc. Discontinued various Table C and D fiber codes.
Verified latest stocked codes.

Issue 39, February, 2009
Added R8.0.1 software, 849107131 LNW2 8.0.1 kit, 109586479 OC192 plugin. Added customer specific 849102371 OC192 kit and 849105671 sync kit. Removed customer specific filtered sync cables and TDI power unit.
Updated 408897163 fan CLEI.

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Engineering Notes

1. This document contains DMX orderable item details. The APG contains complete circuit pack specifications and integration information. Use the Installation Manual for complete installation instruction. See “Ordering Documents” for latest issues of documentation.

2. A System Controller circuit pack is required for software and provisioning.

3. DMX's circuit packs are grouped into three types in Table A: High Speed (Main) Interfaces which go into Main slots M1/2 Tributary TDM (Function / Growth) Interfaces which go into slots A1/2 - G1/2 Apparatus blanks for all un-populated slots

4. Blanks must be installed in all empty slots to ensure air flow and cooling through the shelf.

5. Spare pack recommendation is a minimum of one spare per code. For additional recommendations, see the APG.

6. The NEBS Level III compliant DMX is designed to mount in a 19” or 23” wide bay or outside plant cabinet. Four DMX can be stacked in a 7 foot bay (1/2” space at the bottom of the bay for airflow). DMX may be stacked due to its baffled fan unit (standard) or integrated top baffle (high capacity). When mounting DMX above non-DMX heat generating equipment, the respective baffle must be installed between DMX and that equipment.

   For standard 23” network bay frame details, see ED8C500-50, ED8C501-50, ED8C502-50, ED8C504-50 and ED8C509-50.
   For seismic 23” network bay frame details, see ED8C800-50, ED8C800-70, ED8C808-50 and 847138351 (ED8C801-50,51)
   The minimum aisle space in the front and rear shall be 762mm [30”]
   The frame must now provide at least 432mm [17”] depth for additional fiber capacity.
   Previously, the frame provided at least 407mm [16”] depth for equipment and fiber. DMX's depth will require the use of bay frame kick plate extensions.
   The standard DMX (DA’d 2004) does not require a 2.5" spacer on each bay for cabling. The high capacity DMX does, so, there are 5” between bays for cabling.

   Outside cabinets with forced air do not require the standard DMX fan.
   Its air filter must be removed (“clogged air filter” alarm must be suppressed in software).
   Remove the high capacity DMX integrated baffle for proper cabinet airflow.

   The weight of the standard DMX (DA’d 2004) filled with circuit packs is 9.1 kg [20 lbs] The weight of the standard fan assembly is 1.7 kg [3.74 lbs]
   The weight of the high capacity DMX filled with circuit packs is 25.9 kg [57 lbs] The weight of the baffle is 1.3 kg [2.9 lbs]

   DMX is primarily grounded by its thread forming mounting screws (included). If an ohmme- ter reading is not less than 1 ohm, a secondary (12 AWG for standard, 8 AWG for high capacity DMX) ground wire (not provided) is recommended for each shelf, from the green ground screw (located on the upper right side plate of the shelf) to frame ground. Remove paint from the frame and apply oxidation protection before connecting. Follow the DMX Installation Manual for complete grounding and installation details.

7. The Spare/Upgrade/Misc. Equipment sections of Tables A & B contain codes for ordering spare fan filters, fan units, etc. for the standard and high capacity DMX respectively.

8. Cables are not supplied with the shelf and must be ordered separately. See the Table of Contents for the different types of cables. See ED8C871-20 for cabling signal, pin, connector, etc. details.

9. DMX requires the 42-degree angled rotating boot LC. One code provides one fiber. Table D halogen free fibers have a 1.6mm outer diameter. Only the "Angled LC to Straight SC Single Mode Fiber" codes are stocked.

   Other codes in other Tables referring to this note are stocked items.
   Stocked items are available to ship in 5 working days or less after receipt of order.
   Non-stocked codes are available to ship in 20 working days or less after receipt of order.

   Some Single mode LC Line Build Outs (LBO) are:
   5dB 108279381, 10dB 108279431, 15dB 108279480, 20dB 108279530

   Table D1 are Customer Specific fibers.
   Additional LBO's and fibers can be found at www.ofsoptics.com
   See also Alcatel-Lucent Fiber Ordering Guides 065-250-104, 065-250-105, 065-250-400, and ED8C900-16.

10. For testing single mode optical main circuit packs, two 2 ft. angled LC to angled LC single mode fibers are needed to loop back main packs. Qty=2 5dB LBO's are needed to loopback short reach packs (LNW76, LNW58). Qty=2 10dB LBO are needed to loopback intermediate reach packs (LNW77, LNW56). A third fiber is required if single mode packs are in any of slots A1/2-G1/2.

11. (discontinued)

12. The 30 amp shelf requires a -48VDC Power Feed A and B. It is designed to work from -40.0 to -60.0 VDC, and each feed has a 30 amp circuit breaker. Therefore, worst case List 2 max current drain, when only one -40V feed powers the shelf, is considered 27.5 amps. Therefore, 27.5 amps x 40 volts = 1100 watts maximum power / heat dissipated by the 30 amp shelf List 1 current drains, i.e., similar dissipation but at -48V, yields 1100 watts / 48 volts = 23 amps
    Power Feed A/B Warnings:
    If a 30 amp shelf with one fan, one LNW2, two LNW59, and ten LNW170 loses one feed, the drain will exceed the 30 amp breaker of the second feed and the shelf will lose all power.

13. Fiber assemblies, cable assemblies or kits referring to this note are stocked items and are available to ship in 5 working days or less after receipt of order. All others are available to ship in 20 working days or less after receipt of order. See also Note 9.

14. Each initial / upgrade software kit contains one release specific Software CD, Documentation CD (see Eng Note 16), Customer Release Notes (CRN) CD. Before ordering software, determine software and hardware compatibility. Identify the software in service before ordering a software upgrade.

15. Twelve individually bagged BNC plugs each with assembly instructions are included in the kit. The kit also includes one spare BNC plug. For example, each DS3#1-12 cable code requires 12 IN and 12 OUT BNCs, so order two kits.

16. Twenty four individually bagged BNC plugs each with assembly instructions are included in the kit. The kit also includes one spare BNC plug. For example, each DS3#1-24 cable code requires 24 IN and 24 OUT BNCs, so order two kits.

17. APG 109251496 covers all features earlier than R7.1. The R10.0 APG 365-372-300R10.0 covers all current features minus any discontinued features of earlier releases.

18. Upgrade kits include all required software and the CRN. For example, an upgrade from R7.1.2 to R10.0.0 requires an upgrade to R8.0.5 as an intermediate step. The R8.0.5 software is included in the upgrade kit.

Table A - "Standard" DMX items vs. "High Capacity Specific" (see also Table B)				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
These accessories below are for both the standard and High Capacity shelf: see also Table B for "High Capacity Specific"				
SNBF Bracket Kit includes screws, cable ties for dressing cables	3.1	848920518	-	-
Test kit for DS1, DS3, & Ethernet cabling with SPG800, patch cords slot = A1/2; B1/2; C1/2; D1/2 (DA 12/31/14)	3.1	109428128	LNW94	-
Test kit for DSX wiring upgrades, e.g., LNW16 to LNW19 slot = A1/2; B1/2; C1/2; D1/2, with SPG800, patch cords (DA 12/31/14)	4.0	109485300	LNW93	-
Test Cable Kit (DA 12/31/14)	4.0	848957437	-	-
24 Fiber Bracket for pre-fibering slots, attaches to a blank	9.0	849127907	-	-
System Controllers for CTL Slot, see Fig. 1, 3: for both standard and high capacity shelf				
Pre-R6.0 LNW1, OSP (Outside Plant temperature range) (re-use)	1.0	109549659	LNW1	SOCUHS0B
LNW2 w/ two 109569038 blank memory cards, OSP (no X.25) The discontinued OC48 LNW26 is not LNW2 compatible. The discontinued LNW26B requires LNW2 Enhanced Mode, or use OC48 packs such as LNW202	6.0	108994989	LNW2	SOCUH0MB
Spare (blank) 256Mb Memory Card for LNW2	6.0.1	109569038		SOUCACRD
Customer Specific LNW2 Kits w/ software pre-loaded include:				
one LNW2, two R7.1.1 memory cards, software CD (DA 12/31/13)	7.1.1	849093448		
similar except DMX R7.1.2 cards	7.1.2	849095435		
similar except one DMX R8.0.3 card, one DMXtend R8.0.3 card (DA 6/30/14)	8.0.3	849120258		
similar except DMX R8.0.5 cards	8.0.5	849136502		
similar except DMX R8.0.6 cards	8.0.6	849155775		
similar except DMX R9.0.1 cards	9.0.1	849153671		
similar except one DMX R9.0.1 and one DMXtend R9.0.1 card	9.0.1	849157847		
similar except one DMX R9.0.3 and one DMXtend R9.0.1 card	9.0.3	849178959		
similar except DMX R10.0.2 cards	10.0.2	849186630		
Apparatus Blanks required for empty slots: for both standard and high capacity shelf				
177D blank for A1/2 - G1/2 slots	1.0	108950585	177D	SOPQAAHD
177D kit w/ 849127907 (24 Fiber Bracket) for pre-fibering the slot	9.0	849130885	-	SOPQAJ8D
LNW98 Detectable blank for A1/2 - G1/2 slots	3.1	109412866	LNW98	SOPQAD9D
LNW98 kit w/ 849127907 (24 Fiber Bracket) for pre-fibering the slot (DA 3/31/14)	9.0	849130893	-	SOPQAJ9D
177E blank for M1/2 slots	2.0	109187336	177E	SOPQACFD
LNW97 Detectable blank for M1/2 slots (DA 12/31/14)	3.1	109415224	LNW97	SOPQAD8D

Table A - "Standard" DMX items vs. "High Capacity Specific" (see also Table B)				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
Main High Speed Packs for M1, M2 slots, see Figs. 1, 3:				
OC12 Intermediate Range (IR) OSP, 12 STS1 (DA 6/30/14)	3.1	109187575	LNW48	SOI7EE0C
OC12 40km Long Range (LR1) OSP, 12 STS1 (DA 6/30/14)	3.1	109319590	LNW50	SOI7EEZC
OC12 Plugin Port 1, 12 STS1 OSP, see Table A - OC12 Plugins	9.0	109702555	LNW203	SOUIBEFF
OC48 2km Short Range (SR1), 48 STS1 (DA 6/30/14)	2.1	109164947	LNW76	SOI5MY0D
OC48 40km Long Range LR1, 48 STS1 (DA 6/30/14)	2.1	108923525	LNW27	SOIFBNZC
OC48 80km LR2 1550 nm, 48 STS1 (DA 6/30/14)	2.1	108923541	LNW29	SOIFBN1C
OC48 Plugin Port 1, 48 STS1 VT fabric, see Table A - Plugins	7.1	109589135	LNW202	SOUIAWNF
OC192 Short Range 2km, 48 STS1	2.1.2	109164939	LNW58	SOI4D0ZA
OC192 Intermediate Range 40km, 48 STS1 (DA 6/30/14)	2.1.2	108848052	LNW56	SOI1HS0A
OC192 Plugin Port 1, STS48 VT fabric, see Table A - Plugins	7.0	109589127	LNW502	SOUIAV5F
Low Speed Packs for Function Slots A1&2, B1&2, C1&2, D1&2 only, i.e, no VLF (see Figs. 1, 3): One Function slot is active. The other, if used, is protection. **Growth slots G1 & G2 have no backplane cable access. See Table B for High Capacity Specific Very Large Fabric (VLF)**				
DS1 Port 1-28 PM, OSP, not VLF compatible, see VLF in Table B	1.0	108764036	LNW7	SOIFLS0C
DS1 Port 1-56, R4.0 DS1/E1 Ports 1-56, PM, OSP (DA 6/30/14)	3.1.1	109164889	LNW8	SOCMB0NJ
DS1/E1 Port 1-56, Performance Monitoring (PM), OSP	8.0	109664490	LNW801	SOOMACRE
DS3 Port 1-12, OSP	1.1	108694845	LNW16	SOIFJM0C
Transmux Port 1-12, use the 12 DS3 cable, OSP (DA 12/31/14)	3.0	109164905	LNW18	SOCMBOPJ
DS3 Port 1-48 with loopback, OSP	5.0	109492470	LNW19B	SOI6120C
DS3 / Transmux Port 1-48, OSP	7.0.1	109535070	LNW20	SOOMABDE
for Function / Growth Slots A1&2 - G1&2, i.e, no VLF:				
OC3 Plugin Port 1-4, 12 STS1, OSP, see Table A - Plugins	4.0	109068783	LNW37	SOI9L5TC
OC3 Plugin Port 1-8, 48 STS1, OSP, see Table A - Plugins	5.0	109411082	LNW45	SOI9LPUC
OC12 Plugin Port 1-4, 48 STS1 OSP, see Table A - Plugins	4.0	109319582	LNW49	SOI9T4UC
OC48 Port 1, Intermediate Range, 1310nm, 12 STS1	2.0	109008987	LNW31	SOI5KL5D
OC48 / OC48 DWDM Plugin Port 1, 12STS1 OSP see Table A - Plugins, use either OC48 or OC48 DWDM plugins	8.0	109678870	LNW402	SOUIA6KF
OC192 DWDM Port 1-8 Ch52-59 195.2-195.9THz, a Mux/Dmux Port and an I/O Port for pass thru add/drop ability, adjacent packs, requires deep front cover	7.1	109616565	LNW785	WMOMA3MJ
OC192 10G Mux/Demux Port with 1GE/FC/2XFC/FICON/OC3-12 Plugin Ports 1-8 or OC48 Plugin Ports 1,3,5,7 with 2,4,6,8 not available, requires deep front cover. See Table A –Plugins	7.1.1	109614834	LNW705	SOOMAB3E
for Slots A1-G1 only & a blank required in Slot 2, i.e, no VLF:				
Enhanced Private Line VT1.5 Concat., LCAS, OSP 100MbE (100Base-FX) Fiber Plugin Ports 1-8 and 10Base-T/100Base-TX Backplane Electrical Ports 1-16, 100m max (Slot G1 cannot provide these 16 electrical ports)	5.0	109492504	LNW74	SO2ILU0A

Table A - "Standard" DMX items vs. "High Capacity Specific" (see also Table B)				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
2 x 2Gb/s Fiber Channel / FICON / ESCON SAN Private Line over SONET, Fiber Plugin Ports 1-4, see Table A – Plugins (DA 12/31/14)	5.1	109461491	LNW73	SOI9Z9ZC
GbE QOS Fiber Plugin Ports 1-4 Fiber/Electrical) and 100MbE Fiber Plugin Ports 5-8 (Fiber/Electrical) Link Aggregation, see Table A - Plugins	7.1	109642728	LNW170	SOUIAWHF
GbE 1000Base-X Private Line OSP R6.0 Fiber (Fiber/Electrical) Plugin Ports 1-4, see Table A - Plugins	6.0	109535088	LNW63	SOUIAB6A
100MbE/GbE Fiber/Electrical Plugin Port 1-4 Private Line, OSP, see Table A - Plugins	9.0	109709188	LNW87	SOUIBFPF
Plugins, i.e., SFP, XFP, PTM types: for respective pack types / rates unless specifically stated				
OC3 2km 1310nm Single Mode (SM) LC industrial for LNW37, LNW45, LNW55, LNW82, LNW705	7.0	109602599	S15512	WOTRAAXC
similar to above except 15km	4.0	109453894	OC3IR1I1	SOOJBDEC
similar to above except 40km	4.0	109453886	OC3LR1I1	SOOJBCDC
OC12 15km 1310nm SM LC industrial for LNW49, LNW55, LNW82, LNW705	4.0	109453902	OC12IR1I1	SOOJCCEC
similar to above except 40km	4.0	109467522	OC12LR1I1	SOOJCCDC
similar to above except 80km 1550nm	7.0	109604447	OC12LR2I1	SOOTAFXD
OC3/12 622Mb/s Coarse WDM-LR (CWDM-LR) SM LC for LNW37, LNW45, LNW49, LNW55, LNW82, LNW705	8.0			
Ch47 1471nm (DA 3/31/14)		109664086	S622C47EL	SOUIA3FF
Ch49 1491nm (DA 3/31/14)		109664094	S622C49EL	SOUIA3GF
Ch51 1511nm (DA 3/31/14)		109664102	S622C51EL	SOUIA3HF
Ch53 1531nm (DA 6/30/14)		109664110	S622C53EL	SOUIA3JF
Ch55 1551nm (DA 3/31/14)		109664128	S622C55EL	SOUIA3KF
Ch57 1571nm (DA 6/30/14)		109664136	S622C57EL	SOUIA3LF
Ch59 1591nm (DA 6/30/14)		109664144	S622C59EL	SOUIA3MF
Ch61 1611nm (DA 3/31/14)		109664151	S622C61EL	SOUIA3NF
OC3/12/48 15km 1310nm SM LC for LNW82, LNW55 only	9.0	109708131	OC3X12X48-IR1-I1	NGI7ASTA
similar to above except 40km		109708149	OC3X12X48-LR1-I1	NGI7ASUA
OC48 2km 1310nm XT (industrial) SM LC for LNW202, LNW55, LNW62, LNW82, LNW402, LNW504, LNW705	7.1	109564518	OC48SR1	SOUIAJZF
similar except 40km		109493528	OC48LR1	SOOTABRD
similar except 80km 1550nm		109504431	OC48LR2	SOOTACED
OC48 CWDM with bail latch SM LC Ch47 1470.0 nm for for LNW55, LNW62, LNW82, LNW202, LNW402, LNW504 (DA 6/30/14)	9.0	1AB402160002	S2G7C47LI	WOTRB0GT
Ch49 490.0 nm (DA 6/30/14)		1AB402160003	S2G7C49LI	WOTRB0HT
Ch51 1510.0 nm (DA 6/30/14)		1AB402160004	S2G7C51LI	WOTRB0JT
Ch53 1530.0 nm (DA 6/30/14)		1AB402160005	S2G7C53LI	WOTRB0KT
Ch57 1570.0 nm (DA 6/30/14)		1AB402160007	S2G7C57LI	WOTRB0MT

Table A - "Standard" DMX items vs. "High Capacity Specific" (see also Table B)				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
OC48/OTU1 DWDM 80km 1550nm SM LC for LNW55, LNW62, LNW82, LNW202, LNW402, LNW504	7.1			
192.3THz/1558.983nm		109610378	S2D23C6	WOTRAD7C
192.5THz/1557.363nm		109610394	S2D25C6	WOTRAD9C
192.7THz/1555.747nm		109610410	S2D27C6	WOTRAEBC
193.1THz/1552.524nm (DA 12/31/14)		109610451	S2D31C6	WOTRAEFC
193.3THz/1550.918nm (DA 12/31/14)		109610477	S2D33C6	WOTRAEHC
193.5THz/1549.315nm (DA 12/31/14)		109610493	S2D35C6	WOTRAEKC
193.7THz/1547.715nm (DA 12/31/14)		109610519	S2D37C6	WOTRAEMC
194.5THz/1541.349nm (DA 12/31/14)		109610600	S2D45C6	WOTRAEWC
194.7THz/1539.766nm (DA 12/31/14)		109610626	S2D47C6	WOTRAEYC
194.9THz/1538.186nm (DA 12/31/14)		109610642	S2D49C6	WOTRAE0C
195.3THz/1535.036nm		109610691	S2D53C6	WOTRAE4C
195.5THz/1533.465nm		109610717	S2D55C6	WOTRAE6C
195.9THz/1530.334nm		109610766	S2D59C6	WOTRAFAC
OC192 2km 1310SM LC for LNW59, LNW502, LNW504, LNW603, LNW705	7.0	109537902	OC192SR1-C1	SOUIAB7F
similar except 40km 1550nm		109537563	OC192IR2-C1	SOUIAB8F
similar except extended temp 40km 1550nm SM LC for LNW59 and LWN705		109586479	OC192IR2-I1	SOOTAFKD
similar except 80km 1550nm SM LC		109537555	OC192LR2-C1	SOUIAB9F
OC192/STM64/OTU2 11.1Gb/s DWDM-LR 1550 nm SM LC for LNW59, LNW502, LNW504, LNW603, LNW705	7.1.1			
192.1 THz, 1560.606 nm Ch21		109615005	X10G21C5	WOTRAFEC
192.2 THz, 1559.794 nm Ch22		109615013	X10G22C5	WOTRAFFC
192.3 THz, 1558.983 nm Ch23		109615021	X10G23C5	WOTRAFGC
192.4 THz, 1558.173 nm Ch24		109615039	X10G24C5	WOTRAFHC
192.5 THz, 1557.363 nm Ch25		109615047	X10G25C5	WOTRAFJC
192.6 THz, 1556.555 nm Ch26		109615054	X10G26C5	WOTRAFKC
192.7 THz, 1555.747 nm Ch27		109615062	X10G27C5	WOTRAFLC
192.8 THz, 1554.940 nm Ch28		109615070	X10G28C5	WOTRAFMC
195.2 THz, 1535.822 nm Ch52 (DA 12/31/14)		109615310	X10G52C5	WOTRAGCC
195.3 THz, 1535.036 nm Ch53		109615328	X10G53C5	WOTRAGDC
195.4 THz, 1534.250 nm Ch54 (DA 12/31/14)		109615336	X10G54C5	WOTRAGEC
195.5 THz, 1533.465 nm Ch55		109615344	X10G55C5	WOTRAGFC
195.6 THz, 1532.681 nm Ch56 (DA 12/31/14)		109615351	X10G56C5	WOTRAGGC
195.7 THz, 1531.898 nm Ch57 (DA 12/31/14)		109615369	X10G57C5	WOTRAGHC
195.8 THz, 1531.116 nm Ch58 (DA 12/31/14)		109615377	X10G58C5	WOTRAGJC
195.9 THz, 1530.334 nm Ch59		109615385	X10G59C5	WOTRAGKC

Table A - "Standard" DMX items vs. "High Capacity Specific" (see also Table B)				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
OC192/STM64/OTU2 11.1Gb/s DWDM-LR 1550 nm SM LC for LNW59, LNW502, LNW504, LNW603, LNW705	9.0			
193.1 THz, 1552.524 nm		109615104	X10G31C5	WOTRAFRC
193.3 THz, 1550.918 nm		109615120	X10G33C5	WOTRAFTC
193.5 THz, 1549.315 nm		109615146	X10G35C5	WOTRAFVC
193.7 THz, 1547.715 nm		109615161	X10G37C5	WOTRAFXC
194.5 THz, 1541.349 nm		109615245	X10G45C5	WOTRAF5C
194.7 THz, 1539.766 nm		109615260	X10G47C5	WOTRAF7C
194.9 THz, 1538.186 nm		109615286	X10G49C5	WOTRAF9C
100MbE 100BASE-LX-I1 1310nm SM for LNW74, LNW87, LNW170, LNW910	5.0	109527812	OMFE	SOOTACKD
100MbE SM 100BASE-ZX IT 1550nm for LNW74, LNW87, LNW170 (DA 12/31/14)	9.0	109703157	100BASE-ZX-I1	NGI7AR92
100MbE MM 100BASE-FX IT 1310nm for LNW74, LNW87, LNW170		109703140	100BASE-FX-I1	NGI7AR82
GbE-1X/2XFC-1000BaseSX(XT)-I1 industrial SR 850nm MM for LNW63, LNW64, LNW73, LNW87, LNW170, LNW705, LNW910	6.0	109570606	OM1G/ OMFC	SOOTAE8D
GbE-1X/2XFC-1000BaseLX(XT)-I1 industrial 1310 SM for LNW63, LNW64, LNW73, LNW87, LNW170, LNW705, LNW910	6.0	109568782	OM1G/ OMFC	SOOTAETD
GbE 1000Base-ZX-I1 commercial temp ER 1550 SM, for LNW63, LNW64, LNW170, LNW87, LNW910	6.0	109541862	OM1G SFP	SOOTAC2D
GbE/100MbE/10 1000/100/10Base-T-C1 Electrical, for LNW63, LNW64, LNW170, LNW87	6.0	109565549	EM1G/ EMFE	SOOTAERD
100/1000Base-T(XT) Electrical for LNW910	10.0	109603134	EM1G/ EMFE	WOTRAC6C
10GBase-LR, 10km, 1310nm SM, XT for LNW910	10.0	109603704	OM10G	WOTRAC8C
10GBase-ER, 40km, 1550nm SM, XT for LNW910	10.0	109603712	OM10G	WOTRAC9C
10GBase-ZR, 80km, 1550nm SM, XT for LNW910	10.0	109603720	OM10G	WOTRADAC
Customer Specific Shelf, Circuit Pack, Hardware Kits:				
HC 30A shelf, 10 177D with 24 position fiber bracket	4.0	848953089	-	-
Cable Kit = 6Ga 12' Power, 8' CIT, 10' LAN Crossover, and 2 Sync filtered connectors	4.0	848953097	-	Eng.Note 13
Cable Kit = 6Ga 12' Power, 8' CIT, 10' LAN Crossover	4.0	848953113	-	Eng.Note 13
Cable Kit = 6Ga 12' Power and 1 Sync filtered connector	4.0	848953121	-	-
Cable Kit, qty=1 6ga 12' power, 150' HC Misc. Discrete, 150' X.25-X.25, 150' Office Alarm, 8' CIT, and 150' Sync w/ filtered connector	4.0	848955282	-	Eng.Note 13
Fiber Kit = 1 meter SC to LC Fiber jumper and A1LCS Kit	4.0	848953139	-	-
2 DS3 Panel Brackets, 2 Cable Brackets Kit, order 1 kit per DMX	7.0.1	849060165		
Below kits etc are as required for the above DS3 Panel Frame Kit:				
22" Cool Grey End Guard Kit, one end guard w/ mounting hardware		849056122		
Spare Kit of Fasteners for DS3 Cables to Brackets		849056114		
DS3 Backplane Test Cable, 62 Pin Plug to 24 coax to 62 Pin Plug		849077821		
DS3 Panel Test Cable, 6 Mini-BNC plugs each end		849077847		
TK2-20 Trompeter Mini-BNC Jack Repair Kit, 10 jacks included		409064078		
kit of ten Mini-BNC Jacks		849077805		
one individual Mini-BNC Jack		409064680		

Table A - "Standard" DMX items vs. "High Capacity Specific" (see also Table B)				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
OC48 / 100MbE SES Jump Start Kit: 109655605 R6.0.4 software, 848953097 cable kit, 848953139 fiber kit, 848839577 Misc Discrete cable, 848562286 Office Alarm cable, 848953089 30amp DMX shelf with ten 177D blanks, LNW2 controller, two LNW76 2km OC48 Mains, LNW74 (100MbE Plugin Ports 1-8), 109527812 100MbE-LX-I1 plugin	8.0	849094024	(DA 6/30/14)	
OC192 / 100MbE SES Jump Start Kit: similiar to above except the two LNW76 are replaced with LNW58 2km OC192 Mains	8.0	849094016		
DS1 Aggregator Kit: 848793287 30amp DMX shelf, LNW2, two LNW48, eight LNW8, two 177D Blanks	8.0	849101399		
OC192 VLF SR Kit: 848793287 30amp DMX shelf, LNW2, two LNW59, two109537902 plugins, two LNW20, eight 177D Blanks	8.0.1	849102371		
Filtered Sync Connector Kit: contains one 9 pin filtered connector, plastic cover, standoffs and screws	8.0.1	849105671		
IR2 Muxponder kit contains 1 LNW705 plus 1 OC-192 IR2 XFP	7.1.1	849157524		
LR2 Muxponder kit contains 1 LNW705 plus 1 OC-192 DWDM (109615062) XFP	7.1.1	849157532		
High Capacity 30 Amp Shelf, see Figs. 3, 4 includes deep cover, 19/23" mounting brackets, fan, fan cable & filter, and fiber tray	2.1	848793287	-	SOM1400H
CE 30 Amp Shelf w/ 2 power filters (limited availability)	6.0.1	849016407	-	
848793287 shelf w/ deep fiber tray and deep fiber tray retrofit kit Deep Fiber Tray Retrofit kit	9.0	849130158 849130125	-	SOM1400H
High Capacity Specific Accessories: (see Table A for compatible standard shelf accessories)				
Fan Unit FMDMX-HCS-01	6.0.1	408906899	-	SOPQAGXD
Fan Filter, UAF-354	2.1	408682615	-	-
High Capacity Fan Cable	2.1	848839551	-	-
Baffle, 17.5" wide with side brackets which adjust for either 19 or 23" bays, height = 3", 12.5" deep. See Eng. Note 6	2.1	848862181	-	-
Vertical fiber duct kit for seismic network bay frame	3.1	848919247	-	-
Fiber Spool Kit, Left Side	3.1	848919239	-	-
Fiber Spool Kit, Right Side	3.1	848919247	-	-
Spare Original Flush Front Cover with Instructions	7.0.2	849070370		
Spare Deep Cover and Fiber Tray Retrofit Kit required for LNW55, LNW82, LNW705, LNW785, LNW910	7.0.2	849068358	-	-

Table B - High Capacity DMX Shelves and Accessories				
Description	Initial Release	Orderable Code	Apparatus Code	CLEI Code
High Capacity Shelf Specific VLF Main M1/2 Packs, see Fig. 3: Very Large Fabric (VLF) allows varying packs in Function / Growth Slots 1 vs. 2. LNW82, LNW504, LNW910 require the deep front cover. See the APG for allowed slot / pack combinations. For DS1 packs, only the LNW8/801 is compatible with VLF Main packs (DS1 LNW6 (discontinued) and LNW7 are not VLF compatible)				
VLF OC3/12 Plugin Ports 1-8 or OC48 Port 1 or 5, OSP, see Table A and use OC3/12/48 Plugins, requires deep front cover	7.1	109643932	LNW82	SOUIAW3F
VLF OC192 Plugin Ports 1-2, see Table A and use OC192 Plugins	7.0	109494799	LNW59	SOUIAB4F
VLF OC192 Plugin Port 1-4 or VLF OC192 Plugin Port 1-3 plus OC48 Plugin Port 5-8 VLF see Table A and use OC48/192 Plugins requires the deep front cover	9.0	109709014	LNW504	SOUIBLLF
High Capacity VLF M1/2 Specific Function / Growth Packs: these Function / Growth Slot packs require VLF Main packs above				
OC3/12 Plugin Port 1-12 or OC48 Port 1, 4, 7 or 10, OSP, requires deep cover, see Table A and use all OC3/12/48 +C/DWDM Plugins	7.1	109532283	LNW55	SOUIAV1F
OC48 Plugin Ports 1-4, OSP, see Table A and use OC48 Plugins	7.0	109532291	LNW62	SOUIAB5F
OC192 Plugin Port 1, see Table A and use OC192 Plugins	9.0	109680496	LNW603	SOUIA7XF
GbE OSP Fiber Plugin Ports 1-8, see Table A use GbE/Fiber Plugin	7.0	109599696	LNW64	SOOTAFWD
FE/GE/10GbE requires the deep front cover	10.0	109783811	LNW910	WOCUAXNF
The High Capacity Shelf also uses Table A packs unless stated				

Table C - 1665 DMX Cable Assemblies			
Description	Eng. Note	Length (FT)	Orderable Code
DS1 Cables backplane 62 pin plug terminated to 28 twisted pairs (24 gauge), far end of cable has no connector. Use on both the standard & high capacity shelf. Each code provides one DS1#1-28 IN cable and one DS1#1-28 OUT cable. For example, if the 28 DS1 LNW7 is in Function Group A, then order one code and connect to J1A OUT and J2A IN For example, if the 56 DS1 LNW8 is in Function Group A, then order two codes, one code connects to J1A OUT and J2A IN for DS1#1-28, the other code connects to J24A OUT and J20A IN for DS1#29-56	13	10	848954988
	13	20	848955001
	13	30	848923074
	13	50	848548327
	13	75	848923082
	13	100	848548335
	13	125	848923090
	13	150	848548343
	13	175	848923108
	13	200	848923116
	13	250	848548350
	13	350	848790762
	13	550	848790770
DS3#1-12 Cables w/ no BNC plugs (e.g., for LNW16, LNW18) Each orderable code provides two cables, i.e, one “DS3#1-12 IN” cable and one “DS3#1-12 OUT” cable. The DS3#1-12 IN cable is one 62 pin plug (backplane) connected to 12 735A coaxial cables with no (customer end) connectors. The DS3#1-12 OUT cable is physically the same as the IN cable except for labeling. See below for a choice of (customer end) BNC plugs, order at least 24. If growth to 24 DS3 is possible, use the DS3#1-24 cables below instead. Example: for a 12 DS3 LNW16 in Function Group A, order one 849040688 to receive one 10ft OUT cable to connect to J1A OUT and one 10ft IN cable for J2A IN 849041710 use ~10ft 735A spliced to 734D cable, 900ft is the max amount of 734D allowed between two DMX. The splice is factory made. Stagger these splices in the cable rack to save space.	13	10	849040688
	13	20	849040696
	13	30	849040704
	13	40	849040712
	13	50	849040720
	13	60	849040738
	13	100	849040746
	13	150	849040753
	13	250	849040761
	13	450	849041710
KINGS 75ohm 735A cable type (12) BNC Plug Kit	13,17		848965778
TROMPETER 75ohm 735A cable type (12) BNC Plug Kit	13,17		848965794
ADC 75ohm 735A cable type (25) BNC Plug Kit	13		849058292
ADC 75ohm 735A cable type (6) BNC Plug Kit	13		849058284

Table C - 1665 DMX Cable Assemblies			
Description	Eng. Note	Length (FT)	Orderable Code
DS3#1-24 Cables w/ no BNC plugs (e.g., for LNW16, LNW18, LNW19, LNW19B) Each orderable code provides two cables, i.e, one “DS3#1-24 IN” cable and one “DS3#1-24 OUT” cable. The DS3#1-24 IN cable is one 62 pin plug (backplane) connected to 24 735A coaxial cables with no (customer end) connectors. The DS3#1-24 OUT cable is physically the same as the IN cable except for labeling. See below for a choice of (customer end) BNC plugs, order at least 48. (DS3#1-12 of these 24 can also cable the 12 DS3 LNW16 or 12 Transmux LNW18.) Example: for a 48 DS3 LNW19 in Function Group A, order two 849040886, one code connects to J1A OUT and J2A IN (DS3#1-24) the second code connects to J24A OUT and J20A IN (DS3#25-48) (if required, order at least 96 BNC plugs) 450ft is the maximum amount of 735A cable allowed between two DMX.	13	10	849040886
	13	20	849040894
	13	30	849040902
	13	40	849040910
	13	50	849040928
	13	60	849040936
	13	70	849040944
	13	80	849040951
	13	90	849040969
	13	100	849040977
	13	110	849040985
	13	120	849040993
	13	140	849041009
	13	150	849041017
	13	160	849041025
	13	180	849041033
	13	200	849041041
	13	250	849041066
	13	300	849041074
Similar to above except ~10ft of 735A spliced to 734D coaxial cable Required for > 450ft between two DMX. 900ft is the max amount of 734D cable allowed between two DMX. The splice is factory made. Stagger these splices in the cable rack to save space.	13	250	849041785
	13	275	849041793
	13	300	849041801
	13	325	849041819
	13	350	849041827
	13	450	849041868
KINGS 75ohm 735A cable type (24) BNC Plug Kit	13,18		848963062
KINGS 75ohm 734D cable type (24) BNC Plug Kit	13,18		848963070
TROMPETER 75ohm 735A cable type (24) BNC Plug Kit	13,18		848963088
TROMPETER 75ohm 734D cable type (24) BNC Plug Kit	13,18		848963096
ITT CANON 75ohm 735A cable type (24)BNC Plug Kit this kit includes 24 individually bagged BNCs w/ assembly instructions	13		409013554
ITT CANON 75ohm 734D cable type (24)BNC Plug Kit this kit includes 24 individually bagged BNCs w/ assembly instructions	13		409013588
ITT CANON 75ohm 735A cable type (50)BNC Plug Kit this kit includes 50 individually bagged BNCs w/ assembly instructions	13		409013562
ITT CANON 75ohm 734D cable type (50)BNC Plug Kit this kit includes 50 individually bagged BNCs w/ assembly instructions	13		409013570
ADC 75ohm 735A cable type (50) BNC Plug Kit	13		849058300

Table C - 1665 DMX Cable Assemblies			
Description	Eng. Note	Length (FT)	Orderable Code
Customer Specific Mini-BNC Cable one 735A coaxial cable per code with one Mini-BNC plug to one standard BNC plug for customer specific applications Related Kits: 409064078 - TK2-20 Trompeter Mini-BNC Jack Repair Kit 849077805 - kit of ten Mini-BNC Jacks 409064680 - one individual Mini-BNC Jack	13	25	109508325
	13	50	109508333
	13	100	109508358
	13	150	109508374
	13	200	109508390
Miscellaneous Discretes (J11) standard DMX Cables right angle connector, one code required per standard shelf, use on the standard shelf only.	13	15	848979399
	13	30	848979407
	13	50	848549598
	13	100	848549606
	13	150	848549614
Miscellaneous Discretes (J11) high capacity DMX Cables straight connector, one code required per high capacity shelf, use on the high capacity shelf only.	13	15	109321794
	13	30	109321802
	13	50	848839569
	13	100	848839577
	13	150	848839585
	13	250	848839593
X.25 (J10) to X.25 Cables (Pre-R6.0 only) as required by network design, use on the standard and high capacity shelf. * 350 ft 848549705 DA 01/31/2011	13	100	848549663
	13	150	848549689
	13	250	848549697
X.25 (J10) to Switch Cables (Pre-R6.0 only) as required by network design, use on the standard and high capacity shelf. * 350 ft 848570859 DA 01/31/2011	13	100	848570818
	13	150	848570826
Office Alarm (J12 Out) Cables, 26 gauge One code is required for the bay's lowest DMX (J12 Out) to the customer patch panel. Then use the Office Alarm Mult cable, below, for additional DMX shelves in that bay. Use on the standard and high capacity shelf.	13	50	848558193
	13	100	848562286
	13	150	848562294
	13	250	848562302
Office Alarm "Mult" (J12 Out to J13 In) Cables One code is required for each additional DMX in the bay above the lowest DMX. Connect the adjacent, upper DMX J12 Out to the lower DMX J13 In. Use on the standard and high capacity shelf.	13	3	848589602
PC / CIT (SYSCTL pack) Cable Use on the standard and high capacity shelf	13	8	848748869
Intra-office (IAO) LAN (J16) Crossover Cables (DMX to PC / CIT) as required by network design, 109321810 uses straight RJ45 plugs. The additional codes use one angled RJ45 plug and one straight RJ45 plug. use on the standard and high capacity shelf.	13	10	109321810
	13	50	848605028
	13	100	848605036
	13	200	848605069

Table C - 1665 DMX Cable Assemblies			
Description	Eng. Note	Length (FT)	Orderable Code
Intra-office (IAO) LAN (J16) Straight Through Cables (DMX to Ethernet hub / Router) as required by network design, use on the standard and high capacity shelf.	13	8	848748869
	13	20	109321836
	13	30	109321844
	13	40	109321851
	13	50	848604948
	13	60	109321869
	13	70	109321877
	13	80	109321885
	13	90	109321893
	13	100	848604955
	13	110	109321901
	13	120	109321919
	13	130	109321927
	13	140	109321935
	13	150	848604963
	13	160	109321943
	13	180	109321950
	13	200	848604971
	13	220	109321968
	13	240	109321976
	13	280	109321992
	13	300	848604997
Sync1 (J9) and Sync2 (J14) high capacity DMX Cables Straight connector, 2 cables per code, as required by network design, use on the high capacity shelf only.	13	50	848839619
	13	75	848923363
	13	100	848839627
	13	125	848923371
	13	150	848839635
	13	175	848923389
	13	200	848923439
	13	225	848923447
	13	250	848839643
	13	300	848923462
	13	450	848839650
Modem (J17) Cables as required by network design, use on the standard and high capacity shelf.	13	50	848756508
	13	100	848756524
	13	250	848756532

Table C - 1665 DMX Cable Assemblies			
Description	Eng. Note	Length (FT)	Orderable Code
10/100 MbE Fast Ethernet Cables 62 pin plug (DMX) to far end un-terminated. One code provides one cable for Ports 1-12 and one cable for Ports 13-24 for one Fast Ethernet function group, e.g. "J1 A" (Ports 1-12) & "J2 A" (Ports 13-24), use on both the standard & high capacity shelf. At the customer end, these wire to RJ45 Punch Down Blocks, provided by the customer, to convert to RJ45 Receptacles. Connect the cable's shield drain wire to the Block's ground connection if it has one. Otherwise, cut the drain wire at the cable insulation. (DMX cables are grounded at the DMX backplane.)	13	8	848819090
	13	20	848778114
	13	35	848923280
	13	50	848778122
	13	75	848923298
	13	100	848778106
	13	125	848923306
	13	150	848778148
	13	175	848923314
	13	200	848923322
	13	225	848923330
	13	250	848923348
	13	275	848923355
	13	300	848778130
GbE Ethernet Cables CAT5e Gigabit Ethernet Shielded Connectorized on Both Ends with Straight RJ45 Connector. use on both the standard & high capacity shelf.	13	5	849010483
	13	10	849010491
	13	15	849010509
	13	25	849010525
	13	50	849010558
	13	150	849010657
Power Cables 2 cables per code, (one for -48V Feed A, one for -48V Feed B) Each cable has DMX straight power connector on one end, the far end is un-terminated. Use on the standard and high capacity shelf. All codes are stocked, see Note 13	10ga	12	848841839
	6ga	12	848635009
		50	848635033
		75	848635041
		100	848635058
	4ga	35	848935268
		55	848634986
		100	848635025
	2ga	55	848935276
		85	848634978
		100	848635017
Power Connectors Only 2 connectors only per code, no cable, for customers / installers who provide their own cable.	13	2 AWG	848635231
	13	4 AWG	848635249
	13	6 AWG	848635934

Table D - 1665 DMX Single Mode Fibers, see Note 9					
FT	Angled LC to Angled LC	Angled LC to Straight LC	Angled LC to Straight SC		
2	109462168				
4	109462176	-	109463026		
6		109462218			
8		109462226			
10		109462234			
15	109462184		109463067		
25		109462267	109463083		

Table D1 - Customer Specific Single Mode Fibers, see Note 9		
For OFS Blue Tiger Simplex Mini-Cord Fiber: Order 109602201 LWSMC-001C-SRB fiber and specify the length required, plus, order one of the following to specify the connectors for each end.		
Angled LC to Angled LC	Angled LC to Angled LC	Angled LC to Angled LC
Angled LC to LC (straight)	Angled LC to LC (straight)	Angled LC to LC (straight)
Angled LC to SC	Angled LC to SC	Angled LC to SC
Angled LC to FC	Angled LC to FC	Angled LC to FC
Angled LC to ST	Angled LC to ST	Angled LC to ST
Angled LC to SCA	Angled LC to SCA	Angled LC to SCA
For OFS Blue Tiger Duplex Mini-Cord / Zip cord Fiber: Order 109611814 LWSMC-002C-SRB fiber and specify the length required, plus, order one of the following to specify the connectors for each end.		
Angled LC to Angled LC	109637553	LWSMSB2-A40LC-A40LC
Angled LC to LC (straight)	109637561	LWSMSB2-LC-A40LC
Angled LC to FC	109615872	LWSMSB2-FC-A40LC
Angled LC to ST	109615898	LWSMSB2-ST-A40LC
Angled LC to SCA	109659102	LWSMSB2-SCA-A40LC
For OFS Blue Tiger 2 Fiber Round Riser Rated (39 inch breakout each end) Fiber: Order 109615401 LWSMC-002C-BRB fiber and specify the length required, plus, order one of the following to specify the connectors for each end.		
Angled LC to Angled LC	109656637	LWSMC2B-A40LC-A40LC
Angled LC to LC (straight)	109656645	LWSMC2B-LC-A40LC
Angled LC to SC	109656652	LWSMC2B-SC-A40LC
Angled LC to FC	109656660	LWSMC2B-FC-A40LC
Angled LC to SCA	109659110	LWSMC2B-SCA-A40LC
For OFS Blue Tiger 4 Fiber Round Riser Rated (39 inch breakout each end) Fiber: Order 109615419 LWSMC-004C-BRB fiber and specify the length required, plus, order one of the following to specify the connectors for each end.		
Angled LC to Angled LC	109656728	LWSMC4B-A40LC-A40LC
Angled LC to LC (straight)	109656736	LWSMC4B-LC-A40LC
Angled LC to SC	109656744	LWSMC4B-SC-A40LC
Angled LC to FC	109656751	LWSMC4B-FC-A40LC
Angled LC to ST	109656769	LWSMC4B-ST-A40LC
Angled LC to SCA	109659128	LWSMC4B-SCA-A40LC

Table F - 1665 DMX Software and Documentation	
Description	Comcode
R5.1.X (see "About This Document" and Notes 14, 17, 18)	
R5.1.3 Initial Application Kit	109606715
R5.1.7 Initial Application Kit	109684696
R5.1.x (x=3,4,5,6) to 5.1.7 Upgrade Kit	109684712
R5.1.3 SRD CD	109606707
R5.1.7 SRD CD	109684688
R5.1.7 SRD (OLCS downloadable)	109684670
Applications and Planning Guide 365-372-300 (OLCS downloadable)	109251496
R5.1 User Operations Guide 365-372-301R5.1 (OLCS downloadable)	109536300
R5.1 Installation Manual 365-372-304R5.1 (OLCS downloadable)	109536326
R5.1 Alarm Messages and Trouble Clearing Guide 365-372-302R5.1 (OLCS downloadable)	109536318
R5.1 TL1 Message Details 365-372-306R5.1 (OLCS downloadable)	109536334
Customer Specific R5.1.3 Initial Application Software	109606830
R5.1.x Documentation CD (DA 6/30/14)	109554287
Engineering and Ordering Information ED8C871-10 (OLCS downloadable)	300520541
Interconnect Information ED8C871-20 (OLCS downloadable)	300596970
R7.1.X (see "About This Document" and Notes 14, 17, 18)	
R7.1.1 Initial Application Kit (DA 12/31/13)	109674739
R3.1 to (5.1.3 to 7.0.2 to) 7.1.1 Upgrade Kit (DA 12/31/13)	109674754
R4.0 to (5.1.3 to 7.0.2 to) 7.1.1 Upgrade Kit (DA 12/31/13)	109674762
R5.0 to (5.1.3 to 7.0.2 to) 7.1.1 Upgrade Kit (DA 12/31/13)	109674770
R5.1.x (x=3, 4, 5, 6) to (7.0.2 to) 7.1.1 Upgrade Kit (DA 12/31/13)	109674804
R6.0.x (x=1, 2, 3, 4) to 7.1.1 Upgrade Kit (DA 12/31/13)	109674812
R7.0.2 to 7.1.1 Upgrade Kit (DA 12/31/13)	109674820
Customer Specific R7.1.1/5.1.1/4.1 CIT Software *** (DA 12/31/13)	109678847
R7.1.1 SRD (OLCS downloadable) (DA 12/31/13)	109674713
R7.1.1 SRD CD (DA 12/31/13)	109674721
R7.1.2 Initial Application Kit	109686311
R3.1 to (5.1.3 to 7.0.2 to) 7.1.2 Upgrade Kit	109686337
R4.0 to (5.1.3 to 7.0.2 to) 7.1.2 Upgrade Kit	109686345
R5.0 to (5.1.3 to 7.0.2 to) 7.1.2 Upgrade Kit	109686352
R5.1.5 to (7.0.2 to) 7.1.2 Upgrade Kit	109686360
R5.1.3, R5.1.4 or 5.1.7 to 7.1.2 Upgrade Kit	109686386
R6.0.x (x=1, 2, 3, 4, 5) to 7.1.2 Upgrade Kit	109686378
R7.0.2 to 7.1.2 Upgrade Kit	109686394
R7.1.1 to 7.1.2 Upgrade Kit	109686402
R7.1.2 SRD (OLCS downloadable)	109686295
R7.1.2 SRD CD	109686303
R7.1.2 CIT Software	109686535

Table F - 1665 DMX Software and Documentation	
Description	Comcode
R7.1 Applications and Planning Guide 365-372-300R7.1 (OLCS downloadable)	109666503
R7.1 User Operations Guide 365-372-301R7.1(OLCS downloadable)	109666461
R7.1 Installation Manual 365-372-304R7.1(OLCS downloadable)	109666487
R7.1 Alarm Messages and Trouble Clearing Guide 365-372-302R7.1 (OLCS downloadable)	109666479
R7.1 TL1 Message Details 365-372-306R7.1(OLCS downloadable)	109666495
R8.0 (see "About This Document" and Notes 14, 17, 18)	
R8.0 Applications and Planning Guide 365-372-300 (OLCS downloadable)	109680983
R8.0 User Operations Guide 365-372-301 (OLCS downloadable)	109680942
R8.0 Installation Manual 365-372-304 (OLCS downloadable)	109680967
R8.0 Alarm Messages and Trouble Clearing Guide 365-372-302 (OLCS downloadable)	109680959
R8.0 TL1 Message Details 365-372-306 (OLCS downloadable)	109680975
Engineering and Ordering Information ED8C871-10 (OLCS downloadable)	300520541
Interconnect Information ED8C871-20 (OLCS downloadable)	300596970
CIT Release Compatibility Matrix, 3EM000030550CIZZA (OLCS downloadable)	-
R8.0.3 (see "About This Document" and Notes 14, 17, 18)	
Customer Specific R8.0.3 Initial Application Kit (DA 6/30/14)	109743336
Customer Specific R3.1 to (5.1.3 to) 8.0.3 Upgrade Kit (DA 6/30/14)	109743351
Customer Specific R4.0 to (5.1.3 to) 8.0.3 Upgrade Kit (DA 6/30/14)	109743369
Customer Specific R5.1.3/5.1.7 to 8.0.3 Upgrade Kit (DA 6/30/14)	109743377
Customer Specific R5.1.6 to (7.1.2 to) 8.0.3 Upgrade Kit (DA 6/30/14)	109743385
Customer Specific R6.0.3 to (7.1.2 to) 8.0.3 Upgrade Kit (DA 6/30/14)	109743393
Customer Specific R7.0.3 to 8.0.3 Upgrade Kit (DA 6/30/14)	109743401
R8.0.3 SRD (OLCS downloadable)	109743310
R8.0.3 SRD CD (DA 6/30/14)	109743328
R8.0.5 (see "About This Document" and Notes 14, 17, 18)	
R8.0.5 Initial Application Kit	109758979
R8.0.5 R3.1 Upgrade Kit	109758995
R8.0.5 R4.0 Upgrade Kit	109759001
R8.0.5 R5.0 Upgrade Kit	109759019
R8.0.5 R5.1.X Upgrade Kit	109759027
R8.0.5 R6.0.1/6.0.4 Upgrade Kit	109759035
R8.0.5 R7.0.2 Upgrade Kit	109759043
R8.0.5 R7.1.1/R7.1.2 Upgrade Kit	109759050
R8.0.5 R8.0.2/R8.0.4 Upgrade Kit	109759068
R8.0.5 Software Release Description (OLCS downloadable)	109758953
R8.0.5 Software Release Description, CD	109758961
R8.0.5 DMX / DMXtend CIT software, including Unite R11.1.1	109759076
R8.0.5 DMX / DMXtend CIT software, including Unite R10.5.4	109759084
CIT SW for 1665 DMX R8.0.5, 1665 DMXTEND R8.0.5 & TSS-5 R7.1.0 with Unite R10.5.4 CIT SW for 1665 DMX R8.0.5, 1665 DMXTEND R8.0.5 & TSS-5 R7.1.0 with Unite R11.1.1	109760397 109760405

Table F - 1665 DMX Software and Documentation	
Description	Comcode
R8.0.6 (see "About This Document" and Notes 14, 17, 18)	
R8.0.6 Initial Application Kit	109770164
R8.0.6 R7.1,1 Upgrade Kit	109770180
R8.0.6 R8.0.5 Upgrade Kit	109770198
R8.0.6 Customer Release Notes (OLCS downloadable)	109770149
R8.0.6 Customer Release Notes, CD	109770156
R9.0.1 (see "About This Document" and Notes 14, 17, 18)	
R9.0 Product Information & Planning Guide (OLCS downloadable)	109696807
R9.0 User Provisioning Guide (OLCS downloadable)	109696765
R9.0 Maintenance and Trouble Clearing Guide (OLCS downloadable)	109696773
R9.0 Installation and System Turn up Guide (OLCS downloadable)	109696781
R9.0 TL1 Command Guide (OLCS downloadable)	109696799
R9.0.1 Initial Application Kit	109771394
R9.0.1 R3.1 Upgrade Kit	109771410
R9.0.1 R4.0 Upgrade Kit	109771428
R9.0.1 R5.0 Upgrade Kit	109771436
R9.0.1 R5.1.3/R5.1.7 Upgrade Kit	109771444
R9.0.1 R5.1.4/R5.1.6 Upgrade Kit	109771451
R9.0.1 R6.0.1/R6.0.4 Upgrade Kit	109771485
R9.0.1 R6.0.2 Upgrade Kit	109771469
R9.0.1 R7.0.2 Upgrade Kit	109771477
R9.0.1 R7.1.1 Upgrade Kit	109771493
R9.0.1 R7.1.2 Upgrade Kit	109771501
R9.0.1 R7.1.4 Upgrade Kit	109771519
R9.0.1 R8.0.x Upgrade Kit	109771527
R9.0.1 R9.0 Upgrade Kit	109771535
R9.0.1 Initial Application Software (Customer Specific)	109771576
R9.0.1 R3.1 Upgrade Kit (Customer Specific)	109771592
R9.0.1 R4.0 Upgrade Kit (Customer Specific)	109771600
R9.0.1 R5.1.3/R5.1.7 Upgrade Kit (Customer Specific)	109771618
R9.0.1 R5.1.6 Upgrade Kit (Customer Specific)	109771626
R9.0.1 R6.0.3 Upgrade Kit (Customer Specific)	109771634
R9.0.1 R7.0.3 Upgrade Kit (Customer Specific)	109771642
R9.0.1 R8.0.3 Upgrade Kit (Customer Specific)	109771659
R9.0.1 Customer Release Notes (OLCS downloadable)	109771378
R9.0.1 Customer Release Notes, CD	109771386
CIT SW for 1665 DMX R9.0.1, 1665 DMXTEND R9.0.1 & TSS-5 R7.2.1 with Unite R10.5.52 CIT SW for 1665 DMX R9.0.1, 1665 DMXTEND R9.0.1 & TSS-5 R7.2.1 with Unite R11.1.2	109773002 109771667
R9.0.3 (see "About This Document" and Notes 14, 17, 18)	
R9.0.3 Initial Application Kit	109802256
R9.0.3 Initial Application Kit (Customer Specific)	109798553
R9.0.3 R9.0.1 Upgrade Kit (Customer Specific)	109798579
R9.0.3 Customer Release Notes (OLCS downloadable)	109798538
R9.0.3 Customer Release Notes, CD	109798546

Table F - 1665 DMX Software and Documentation	
Description	Comcode
R9.1 (see “About This Document” and Notes 14, 17, 18)	
R9.1 Initial Application Kit (DA 12/31/13)	109783415
R9.1 R5.1.3/R5.1.7 Upgrade Kit (DA 12/31/13)	109783431
R9.1 R5.1.4/R5.1.5 Upgrade Kit (DA 12/31/13)	109783449
R9.1 R6.0.1/R6.0.2/R6.0.4 Upgrade Kit (DA 12/31/13)	109783456
R9.1 R7.0.2 Upgrade Kit (DA 12/31/13)	109783308
R9.1 R7.1.1/R7.1.2/R7.1.4 Upgrade Kit (DA 12/31/13)	109783316
R9.1 R8.0.2/R8.0.4/R8.0.5/R8.0.6 Upgrade Kit (DA 12/31/13)	109783324
R9.1 R9.0.1 Upgrade Kit (DA 12/31/13)	109783332
R9.1 Initial Application Kit (Customer Specific) (DA 12/31/13)	109783365
R9.1 R5.1.3/R5.1.7 Upgrade Kit (Customer Specific) (DA 12/31/13)	109783381
R9.1 R8.0.3 Upgrade Kit (Customer Specific) (DA 12/31/13)	109783399
R9.1 R9.0.1 Upgrade Kit (Customer Specific) (DA 12/31/13)	109783407
R9.1 Customer Release Notes (OLCS downloadable) (DA 12/31/13)	109783647
R9.1 Customer Release Notes, CD (DA 12/31/13)	109783274
CIT SW for 1665 DMX R9.1, 1665 DMXTEND R9.1 & TSS-5 R7.2.3 with Unite R10.5.52 CIT SW for 1665 DMX R9.1, 1665 DMXTEND R9.1 & TSS-5 R7.2.3 with Unite R11.1.26	109783357 10978340
R9.1.1 (see “About This Document” and Notes 14, 17, 18)	
R9.1.1 Initial Application Kit	109793224
R9.1.1 R5.1.3 Upgrade Kit	109793240
R9.1.1 R5.1.4/R5.1.5/R5.1.7Upgrade Kit	109793257
R9.1.1 R6.0.1/R6.0.2/R6.0.4 Upgrade Kit	109793265
R9.1.1 R7.0.2 Upgrade Kit	109793273
R9.1.1 R7.1.1/R7.1.2/R7.1.4 Upgrade Kit	109793281
R9.1.1 R8.0.2/R8.0.4/R8.0.5/R8.0.6 Upgrade Kit	109793299
R9.1.1 R9.0.1 Upgrade Kit	109793307
R9.1.1 R9.1 Upgrade Kit	109793315
R9.1.1 Customer Release Notes (OLCS downloadable)	109793208
R9.1.1 Customer Release Notes, CD	109793216
CIT SW for 1665 DMX R9.1.1, 1665 DMXTEND R9.1.1 & TSS-5 R7.2.4 with Unite R10.5.52 CIT SW for 1665 DMX R9.1.1, 1665 DMXTEND R9.1.1 & TSS-5 R7.2.4 with Unite R11.1.26	109793455 109793448
R10.0 (see “About This Document” and Notes 14, 17, 18)	
R10.0 Initial Application Kit	109788984
R10.0 R5.1.3/R5.1.7 Upgrade Kit	109789008
R10.0 R5.1.4/R5.1.5 Upgrade Kit	109789016
R10.0 R6.0.1/R6.0.2/R6.0.4 Upgrade Kit	109789024
R10.0 R7.0.2 Upgrade Kit	109789032
R10.0 R7.1.1/R7.1.2/R7.1.4 Upgrade Kit	109789040
R10.0 R8.0.2/R8.0.4/R8.0.5/R8.0.6 Upgrade Kit	109789057
R10.0 R9.0.1 Upgrade Kit	109789065
R10.0 R9.1.1 Upgrade Kit	109789073
R10.0 Initial Application Software (Customer Specific)	109789107

Table F - 1665 DMX Software and Documentation	
Description	Comcode
R10.0 R5.1.3/R5.1.7 Upgrade Kit (Customer Specific)	109789123
R10.0 R8.0.3 Upgrade Kit (Customer Specific)	109789131
R10.0 R9.0.1 Upgrade Kit (Customer Specific)	109789149
R10.0 R9.1.1 Upgrade Kit (Customer Specific)	109789156
R10.0 Customer Release Notes (OLCS downloadable)	109788950
R10.0 Customer Release Notes, CD	109788968
CIT SW for 1665 DMX R10.0, 1665 DMXTEND R10.0 & TSS-5 R7.2.4 with Unite R10.5.54 CIT SW for 1665 DMX R10.0, 1665 DMXTEND R10.0 & TSS-5 R7.2.4 with Unite R11.1.28	109789099 109789081
R10.0.1 (see “About This Document” and Notes 14, 17, 18)	
R10.0.1 Initial Application Kit	109802769
R10.0.1 R5.1.3/R5.1.7 Upgrade Kit	109802785
R10.0.1 R5.1.4/R5.1.5 Upgrade Kit	109802793
R10.0.1 R6.0.1/R6.0.2/R6.0.4 Upgrade Kit	109802801
R10.0.1 R7.0.2 Upgrade Kit	109802819
R10.0.1 R7.1.1/R7.1.2/R7.1.4 Upgrade Kit	109802827
R10.0.1 R8.0.2/R8.0.4/R8.0.5/R8.0.6 Upgrade Kit	109802835
R10.0.1 R9.0.1/R9.0.3 Upgrade Kit	109802843
R10.0.1 R9.1.1 Upgrade Kit	109802850
R10.0.1 R10.0 Upgrade Kit	109802900
R10.0.1 Customer Release Notes (OLCS downloadable)	109802744
R10.0.1 Customer Release Notes, CD	109802751
CIT SW for 1665 DMX R10.0.1, 1665 DMXTEND R10.0.1 & TSS-5 R7.2.4 with Unite R10.5.54 CIT SW for 1665 DMX R10.0.1, 1665 DMXTEND R10.0.1 & TSS-5 R7.2.4 with Unite R11.1.28 CIT SW for 1665 DMX R10.0.1, 1665 DMXTEND R10.0.1 & TSS-5 R7.2.4 with Unite R10.5.54 & R11.1.28	109802876 109802868 109802884
R10.0.2 (see “About This Document” and Notes 14, 17, 18)	
R10.0.2 Initial Application Kit	109809426
R10.0.2 R5.1.3/R5.1.7 Upgrade Kit	109809442
R10.0.2 R5.1.4/R5.1.5 Upgrade Kit	109809459
R10.0.2 R6.0.1/R6.0.2/R6.0.4 Upgrade Kit	109809467
R10.0.2 R7.0.2 Upgrade Kit	109809475
R10.0.2 R7.1.1/R7.1.2/R7.1.4 Upgrade Kit	109809483
R10.0.2 R8.0.2/R8.0.4/R8.0.5/R8.0.6 Upgrade Kit	109809491
R10.0.2 R9.0.1/R9.0.3 Upgrade Kit	109809509
R10.0.2 R9.1.x Upgrade Kit	109809517
R10.0.2 R10.0.0/R10.0.1 Upgrade Kit	109809525
R10.0.2 Customer Release Notes (OLCS downloadable)	109809400
R10.0.2 Customer Release Notes, CD	109809418
CIT SW for 1665 DMX R10.0.2, 1665 DMXTEND R10.0.2 & TSS-5 R7.2.6 with Unite R10.5.x CIT SW for 1665 DMX R10.0.2, 1665 DMXTEND R10.0.2 & TSS-5 R7.2.6 with Unite R11.1.x CIT SW for 1665 DMX R10.0.2, 1665 DMXTEND R10.0.2 & TSS-5 R7.2.6 with Unite R10.5.x & R11.1.x	109809541 109809533 109809558
R10.0.3 (see “About This Document” and Notes 14, 17, 18)	
R10.0.3 Initial Application Kit	109811463
R10.0.3 R5.1.3 Upgrade Kit	109811489
R10.0.3 R5.1.4/R5.1.5/R5.1.7 Upgrade Kit	109811497

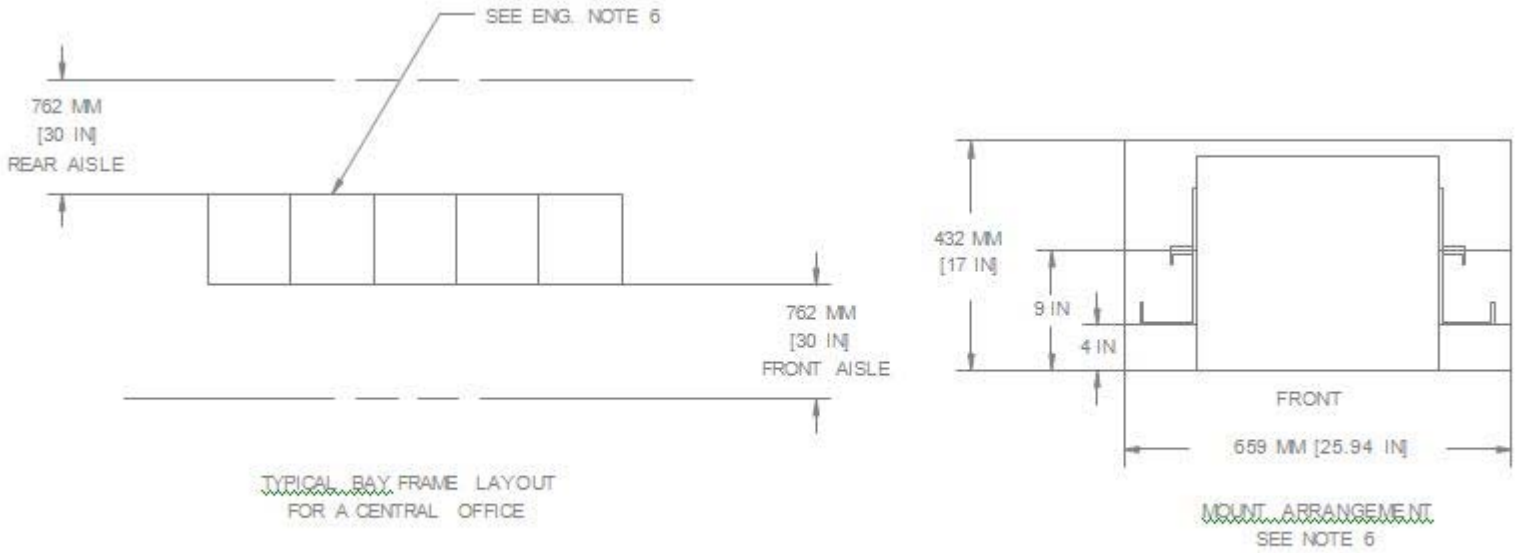
Table F - 1665 DMX Software and Documentation	
Description	Comcode
R10.0.3 R6.0.1/R6.0.2/R6.0.4 Upgrade Kit	109811505
R10.0.3 R7.0.2 Upgrade Kit	109811513
R10.0.3 R7.1.1/R7.1.2/R7.1.4 Upgrade Kit	109811521
R10.0.3 R8.0.2/R8.0.4/R8.0.5/R8.0.6 Upgrade Kit	109811539
R10.0.3 R9.0.1/R9.0.3 Upgrade Kit	109811547
R10.0.3 R9.1.x Upgrade Kit	109811554
R10.0.3 R10.0.0/R10.0.1/R10.0.2 Upgrade Kit	109811562
R10.0.3 Customer Release Notes (OLCS downloadable)	109811488
R10.0.3 Customer Release Notes, CD	109811455
CIT SW for 1665 DMX R10.0.3, 1665 DMXTEND R10.0.3 & TSS-5 R7.2.6 with Unite R10.5.x CIT SW for 1665 DMX R10.0.3, 1665 DMXTEND R10.0.3 & TSS-5 R7.2.6 with Unite R11.1.x CIT SW for 1665 DMX R10.0.3, 1665 DMXTEND R10.0.3 & TSS-5 R7.2.6 with Unite R10.5.x & R11.1.x	109811588 109811570 109811596

Floor Plan Data, Standard Alcatel-Lucent 1665 DMX

Standard 20 Amp DMX Shelf Current Drains				
Feed	Voltage, Single Feed Only	Breaker	Max Amps (Current Drain)	Max Power, Dissipation
A or B	-40VDC List 2X	20 Amp	17.5 Amps	700 watts
	-48VDC List 1		14.6 Amps	
The "Standard 20 Amp" shelf is designed to work from -40 to -60 DC volts. See Eng. Note 12				

Standard 1665 DMX Voltage Drop for List 2X Drain			
Looped Voltage Drop	2 AWG	4 AWG	6 AWG
0.25V	43 FT	27 FT	17 FT
0.50V	85 FT	55 FT	35 FT
0.75V	127 FT	82 FT	52 FT
1.00V	170 FT	110 FT	70 FT
These calculations assume the two power feeds share the load. Calculations for one feed only increases the wire gauge.			

Floor Plan Data, Standard Alcatel-Lucent 1665 DMX



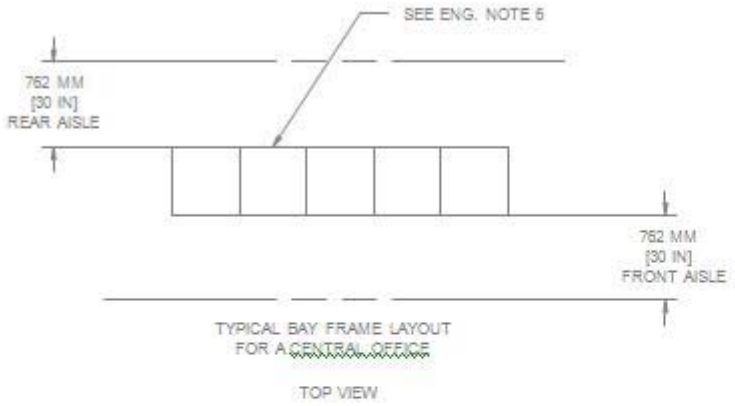
Standard 1665 DMX Bay Frame Layout

Floor Plan Data, High Capacity Alcatel-Lucent 1665 DMX

High Capacity 20 or 30 Amp DMX Shelf Current Drain				
Feed	Voltage, Single Feed Only	Breaker (Shelf)	Max Amps (Current Drain)	Max Power, Dissipation
A or B	-40VDC List 2X	20 Amp	17.5 Amps	700 Watts
	-48VDC List 1		14.6 Amps	
	-40VDC List 2X	30 Amp	27.5 Amps	1100 Watts
	-48VDC List 1		23 Amps	
The "High Capacity 20 or 30 Amp" shelf is designed to work from -40 to -60 DC volts. See Eng. Note 12				

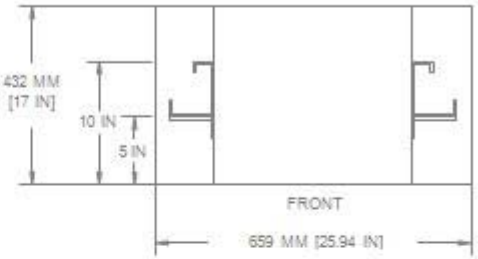
High Capacity 1665 DMX Voltage Drop for List 2X Drain			
Looped Voltage Drop	2 AWG	4 AWG	6 AWG
0.25V	27 FT	17 FT	11 FT
0.50V	55 FT	35 FT	22 FT
0.75V	80 FT	55 FT	33 FT
1.00V	110 FT	70 FT	44 FT
These calculations assume the two power feeds share the load. Calculations for one feed only increases the wire gauge.			

High Capacity 1665 DMX Bay Frame Layouts

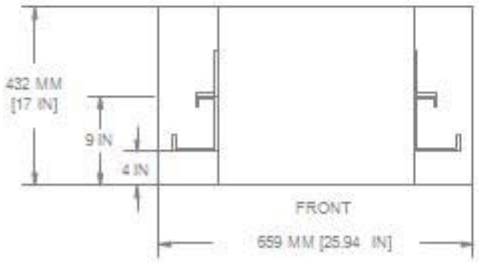


TYPICAL BAY FRAME LAYOUT
FOR A CENTRAL OFFICE

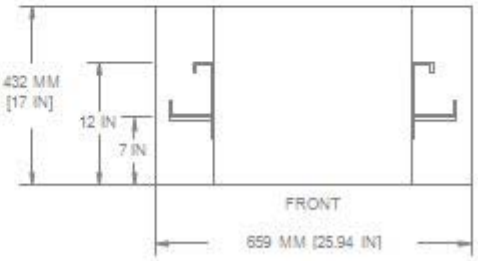
TOP VIEW



MOUNT ARRANGEMENT #1
SEE NOTE 6
TOP VIEW



MOUNT ARRANGEMENT #2
SEE NOTE 6
TOP VIEW



MOUNT ARRANGEMENT #3
SEE NOTE 6
TOP VIEW

Figure 1 – Standard Shelf Front View, Circuit Pack Locations

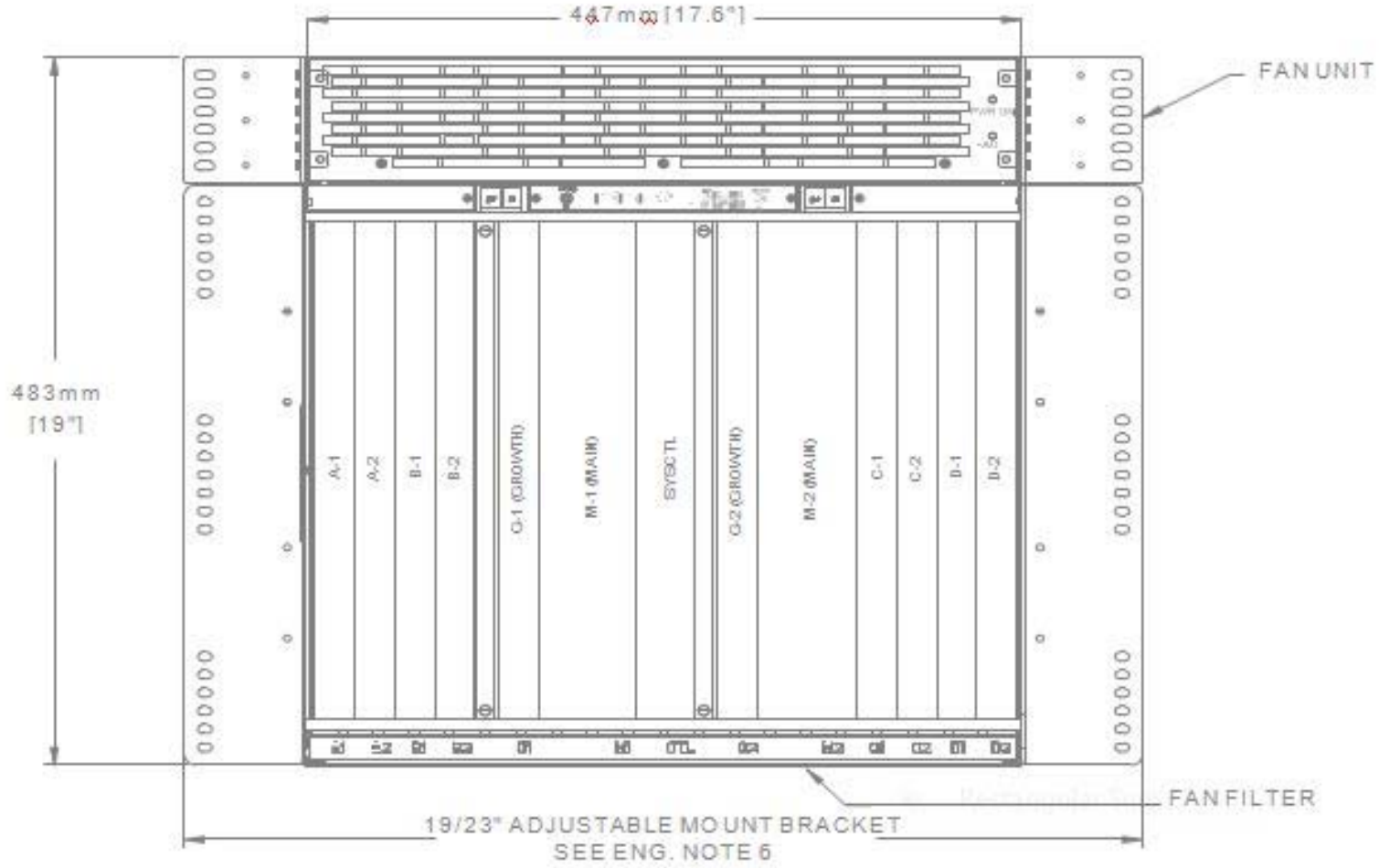


Figure 2 – Standard Shelf Rear View

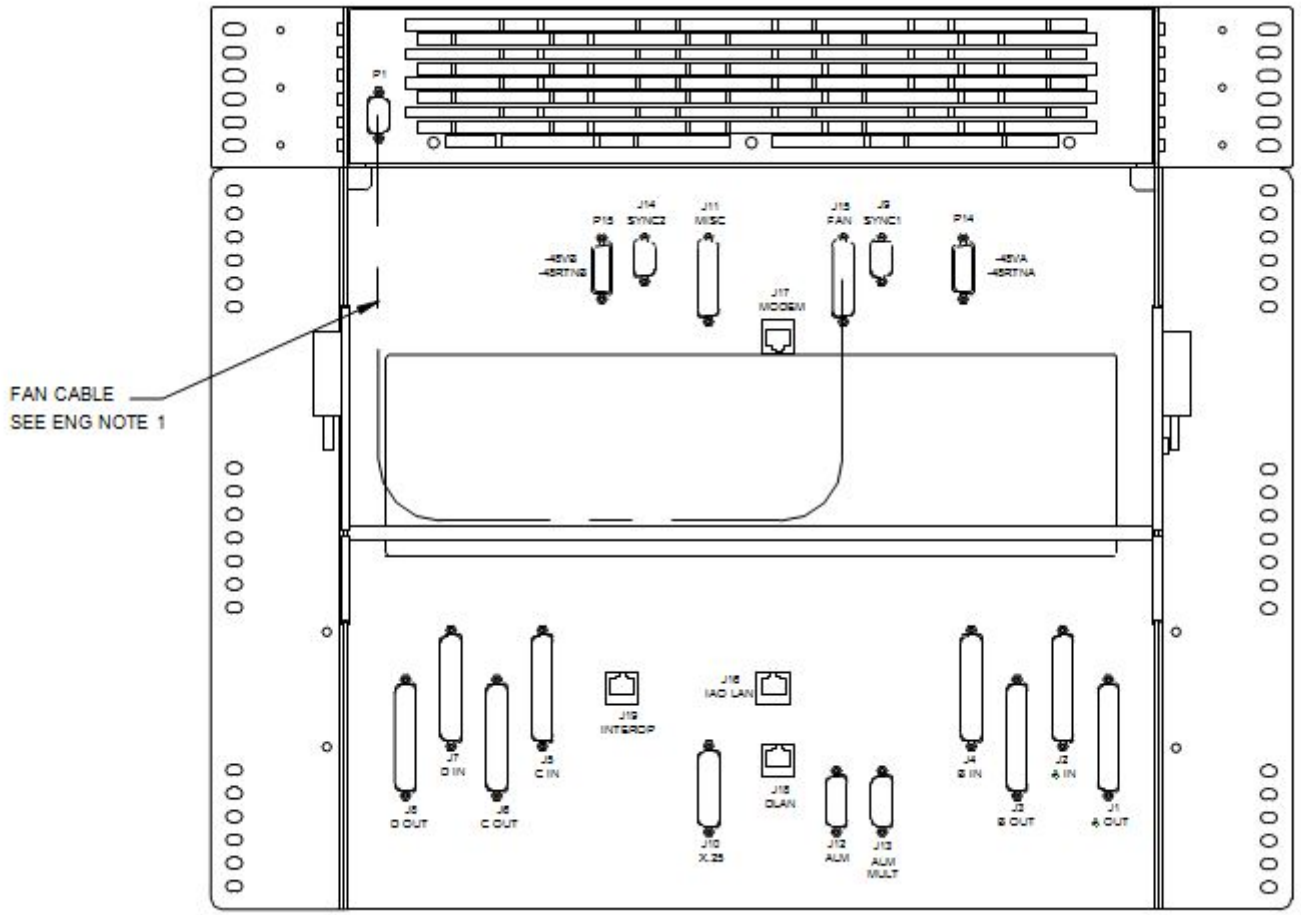


Figure 3 – High Capacity Shelf Front View

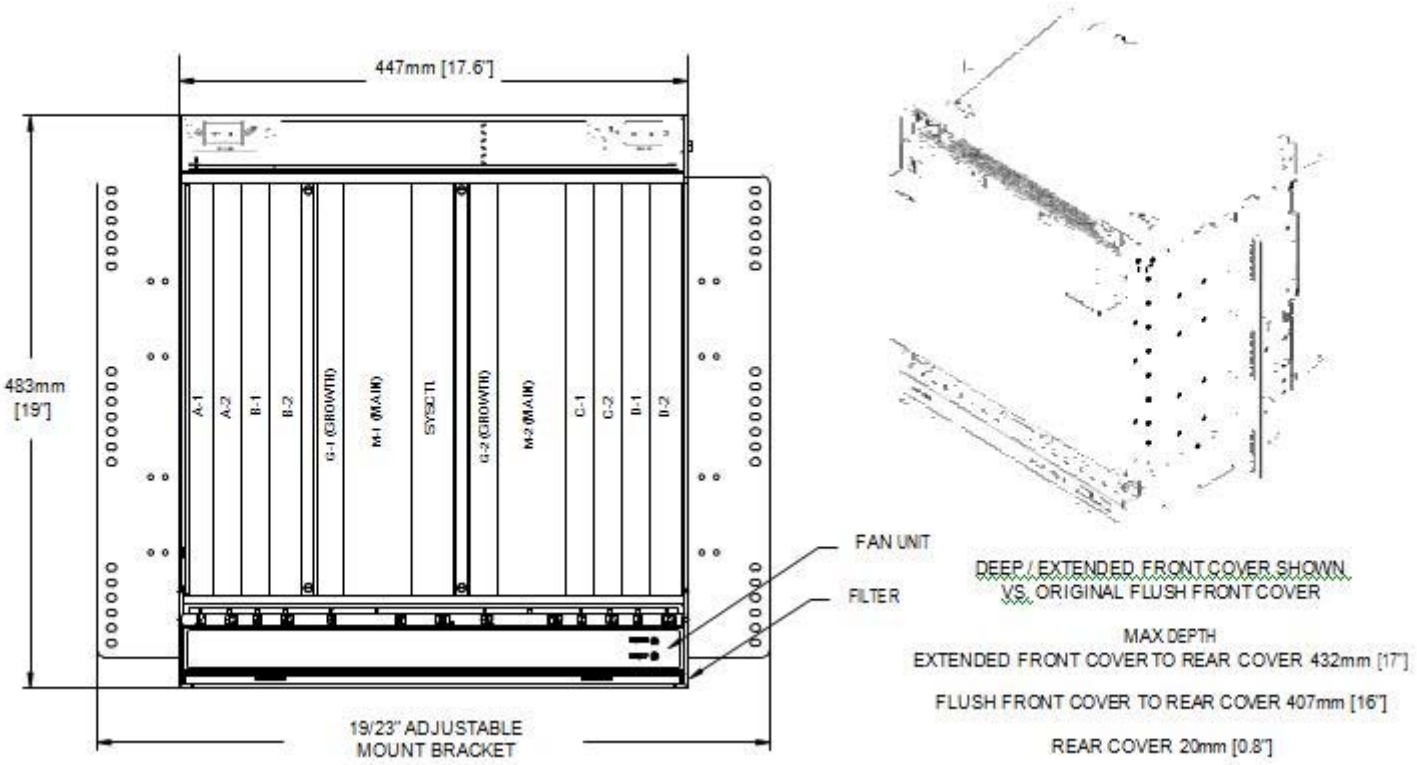


Figure 4 – High Capacity Shelf Rear View