
DIGITAL SWITCHING SYSTEMS

DUMMY REGION ADDED FOR ,typ. TAG.

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DMS-100<cb,-9/AS>` <cb,0>FAMIL

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INTEGRATED BUSINES

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NETWORK SERVICE

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MERIDIAN<cb,-3/AS>` <cb,0>M518

18-BUTTON ADD-O

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DESCRIPTION, INSTALLATION, OPERATIO

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AND MAINTENANC

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Northern Telecom**

1. FUNCTIONS

INTERFACE

1.01 The Meridian M518 18-button add-on unit is designed for functioning in conjunction with (and connects in parallel to) any one of the M5000 series business sets which, in turn, is connected to one of the Meridian Business Services networks served by Northern Telecom DMS-250, DMS-100, or Meridian SL-100 Digital Switches. The M518 can also be combined with one 36-button M536 Add-on unit. For a listing of available M5000-series sets refer to RELATED DOCUMENTATION at the end of this Part of the Practice. The switch interface must contain a 6X21AC type line card, and the Software Package NTX106AA is also required. Both items are available on BCS26 or higher. A maximum of three 18-button add-ons, or one M536 and one M518 can be associated with one M5000 type business set.

1.02 The housing of the M518 18-button add-on is similar in appearance to the M5000 series business sets.

Powering

1.03 The M518 18-Button Add-on unit cannot be powered from the loop. An auxiliary power supply is required, consisting of a wall plug-in transformer equipped with a TELADAPT* Adapter which accommodates both the add-on and the business set. This power supply is normally shipped together with the M5000-series business set.

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*TELADAPT is a trademark of Northern Telecom

Note: To allow the operation of essential or frequently used features to remain accessible during local commercial power failures, it is recommended to assign such features to the first eight feature key/indicator pairs on the business set associated with the add-on unit. Feature key/indicator pairs 1 to 8 on the business set (basic M5009 service) are loop powered and continue to function during local power failures, whereas the 18-button add-on unit is dependent on local power.

Hardware Configuration

1.04 The first key of the first M518 add-on unit joined to a M5000 series business set (immediately to the right of the business set) is key number 12, located as shown in Fig. 1-1. The keys are not designated by number on the actual keyboard, but the numbers are required for datafilling. Each function key has an associated Liquid Crystal Display (LCD) indicator window, located to the left of the key.

PHYSICAL CHARACTERISTICS

1.05 Fig. 1-1 gives the dimensions of the M518 unit and the physical layout and numbering of all programmable feature keys up to the maximum configuration (three add-on units). The add-on units come in three different colors which match the M5000 series business set colors, as follows (for a complete listing of engineering and ordering codes for all units and replaceable parts, refer to the Table at the end of this Practice):

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- (a) Chameleon-gray (NT4X38AA, NT4X38CA, NT4X38EA)
- (b) BTS light-gray (NT4X38BA, NT4X38DA, NT4X38FA)
- (c) Black (NT4X38GA, NT4X38HA, NT4X38JA)

RELATED DOCUMENTATION

0.05 Other information pertaining to the Business Sets, networks, subscriber loops, and Meridian business sets with which the 18-button add-on functions is given in the following documents:

297-2001-100	Integrated Business Network (IBN) - Description
297-1001-114	Operational Measurements (OM)
297-1001-250	Testing and Acceptance for Initial Installation
297-1001-518	Operational Measurements - Man-Machine Interface

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297-1001-518	Operational Measurements - Man-Machine Interface
297-2011-100	DMS-100 Business Set - Feature Description and Operation
297-2011-180	DMS-100 Business Set - Line Engineering Rules
297-2011-201	Meridian M5009 Basic (9-Button) Business Set - Description, Installation, Operation and Maintenance
297-2011-202	Meridian M5112 Handsfree (12-Button) Business Set - Description, Installation, Operation and Maintenance
297-2011-205	Meridian M536 36-button Add-on Unit - Description, Installation, Operation and Maintenance
297-2011-211	Meridian M5209 Basic (9-button) Business Set with Alphanumeric Display - Description, Installation, Operation and Maintenance
297-2011-212	Meridian M5312 Handsfree (12-button) Business Set with Alphanumeric Display - Description, Installation, Operation and Maintenance
P0669369	Business Set User Guide (English)
P0672721	Business Set User Guide (French)
P0678451	36-Button Add-on Unit Instruction Card (English)

297-2011-202	Meridian M5112 Handsfree (12-Button) Business Set - Description, Installation, Operation and Maintenance
297-2011-205	Meridian M536 36-button Add-on Unit - Description, Installation, Operation and Maintenance
297-2011-211	Meridian M5209 Basic (9-button) Business Set with Alphanumeric Display - Description, Installation, Operation and Maintenance
297-2011-212	Meridian M5312 Handsfree (12-button) Business Set with Alphanumeric Display - Description, Installation, Operation and Maintenance
P0669369	Business Set User Guide (English)
P0672721	Business Set User Guide (French)
P0678451	36-Button Add-on Unit Instruction Card (English)
P0700907	M518 Add-on Installation Card (English), shipped in same package with the add-on unit.
P0700908	M518 Add-on Installation Card (French), shipped in same package with the add-on unit.

Fig. 0-1
M518 18-button Add-On Unit - Dimensions, Physical Layout and Key Numbering

computing devices.

Atmospheric Pollution

0.02 The M518 18-Button Add-on is designed to withstand normal atmospheric conditions throughout its life and during shipment and storage as defined in the International Electrotechnical Commission (IEC) document 50 (salt mist, atmospheric dust, sulfur dioxide, and hydrogen sulfide exposure).

Vibration

0.03 The Add-on is designed to work to specifications after being subjected to the following vibrations in each of three orthogonal directions for 90 minutes:

- Vibration frequency range of 5 to 500 Hz.
- Maximum half displacement 0.35 mm (.014 in).
- Maximum acceleration 15/m/s/s.

Shock

0.04 *Packaged:* The Add-on within its packaging is designed to withstand normal handling during shipment.

0.05 *Unpackaged:* The M518 Add-on is designed to withstand accidental dropping during normal use, without sustaining damage when dropped on any face or corner from a height of 750 mm (30 in).

POWER SUPPLY

0.06 Each M518 18-button add-on unit will draw typically 23 mA rms with a maximum of 30-31 mA rms from the auxiliary power supply. All power for the M518 is derived from an external 16 V ac power supply. The linecord, which contains tip and ring signals, is connected to the input of a Teladapt connector which terminates the power supply cable. (see wiring schematics in Fig. 4-4 to 4-6). The power is passed to the first M518 through the linecord, and then further through the second and third M518 (if these are present), ending at the host (M5000-series business set).

KEYS AND LCD

1.01 Each individual M518 18-Button add-on has 18 assignable keys with associated LCD status indicators (Fig. 1-1). The status indicators support four key/LCD states as follows:

FUNCTION	LCD STATE
idle or feature inactive	LCD off
active or feature active	LCD on
incoming call or feature pending	LCD flashing (60 IPM)
call on hold	LCD winking (120 IPM)

1.02 The feature keys can be assigned a subset of the following features:

Key Desig- nation	Feature Description	Acro- nym
Auto Dial	Automatic Dialing	AUD
Auto Line	Automatic Line	AUL
Call Fwd	Call Forward	CF
Call Park	Call Park	PARK
Call Wait	Call Waiting	CWT
Conf	Conference Calls	CON
Conf3	Three-way Conference	TWC
I/C Group	Intercom Group	GIC
Intercom	Intercom Calls	ICM
Station..	Station Busy Indication	SBI
Msg Wait	Message Waiting	MWT
Make Busy	Make Busy	MSB
Override	Busy Override	EBO
Pickup	Call Pickup	CPU
Privacy	Privacy	PRV
Priv Rls	Privacy Release	PRL
Ring Again	Ring Again	(RAG)
Speed Call	Speed Call	SCS
Time/Date	Query Time and Date	QTD
Transfer	Call Transfer	CXR

SIGNALING

1.03 Each M518 add-on unit operates in parallel with any Meridian M5000-type business set and is limited by the signaling range of the set. A maximum of three M518 add-ons can be associated with one M5000 series set. Messages are encoded by Amplitude Shift Keying (ASK) of an 8 KHz carrier.

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STEP PROCEDURE

Check that all wiring and cross-connections have been completed for the associated Meridian business set. Refer to the appropriate Practice (refer to Part 1, "Related Documentation.").

Disconnect and remove linecord from the Meridian M5000-series business set if the installation entails adding one or more M518 add-on units to an existing and working business set.

Place business set and add-on unit or units upside down on a number of sheets of soft, clean paper to prevent damage to movable keys and key-caps. The set and add-on units must be on a level work surface to prevent damage to junction clips or units while they are being joined together and secured.

Note: When placed upside down, add-on units must be adjacent to the left hand side of the business set to permit proper routing of cords when the units are attached to the business set (Fig. 4-2).

Install desk organizer (junction plate) P0700615 in the designated location (illustrated in Fig. 4-2) and secure. One desk organizer is provided with each M518 add-on unit. If more than one M518 add-on unit must be installed, all the units should be secured together prior to running and connecting the NPS50318-04 L.05 (A0352901) jumper line cords.

Plug jumper line cord (supplied with M518 add-on unit) Teladapt connector into linecord receptacle in the base of the M5000-series business set. The Teladapt connector has a latch-tab which ensures correct alignment and prevents the cord from being pulled out inadvertently during service. Ascertain that this latch tab is firmly snapped into place.

Route jumper line cord through the line cord channel and then through the left hand side connecting channel towards the add-on unit. Squeeze cord into the restraining notches in the cord routing channel.

Continue junction cord through entrance channel of M518 add-on unit and plug Teladapt connector into the Teladapt receptacle marked OUTPUT in Fig. 4-2.

Plug Teladapt connector of the jumper line cord leading to the next (adjacent) add-on unit into the Teladapt receptacle marked INPUT in Fig. 4-2 and route and connect the cord to the next unit in the same fashion as described in Steps 6 and 7.

When the last add-on unit in a string is reached, or when only one add-on unit is to be installed, connect the linecord Teladapt connector to the Teladapt receptacle marked INPUT in Fig. 4-2 and route linecord through the channel leading to the back of that M518 add-on unit.

Note: Older vintages of M5000-series business sets may not be equipped with desk organizer fastening holes and a jumper cord channel leading to the side of the set, but may only have one wide exit channel with cable retaining clips leading to the back of the set. In that case, or whenever it is preferred to have the M518 add-on units separated from the associated business set, the rear cord exit and entrance channels must be used for routing of the jumper cords. In such a case, the jumper line cord (A0352901) supplied with the M518 add-on unit will not be long enough and a regular line cord (A0274382) must be used and must be ordered separately (Table 6-A).

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Turn business set and add-on unit assembly right side up and place in final workstation position. Use care and do not put too much stress on the junction clips when turning a multiple unit by avoiding holding the assembly at both ends while lifting it. The assembly should be turned on its back to be placed right side up.

Plug auxiliary power supply transformer into a wall outlet near the telephone connecting block.

Plug the connector which forms part of the power supply transformer assembly (Fig. 4-3), into the telephone connecting block Teladapt receptacle.

Note: If a T-connector is used on the power supply assembly, make certain that **only** the Tip and Ring leads are continued through the wall-connector. Refer to Fig. 4-3 for more detailed information.

Insert the line cord Teladapt connector from the last add-on unit into the connector at the telephone connecting block. For a layout and wiring schematic, refer to Fig. 4-4 to 4-6. Make sure all Teladapt connectors are firmly seated.

Designate button labels for key designations.

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Designate button labels for key designations.

Fold labels, insert inside plastic lens, and snap lens over movable key, pressing down on key, as required. Repeat for all keys.

This completes installation of the M518 add-on unit/M5000-series business set assembly.

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in Part 6.

Meridian M518 Add-on, Chameleon-gray, made in Canada for Canadian sales	B0227483	NT4X38AA
Meridian M518 Add-on, BTS light-gray, made in Canada for Canadian sales	B0227484	NT4X38BA
Meridian M518 Add-on, Black, made in Canada for Canadian sales	B0227489	NT4X38GA
Meridian M518 Add-on, Chameleon-gray, made in Canada for U.S. sales	B0227485	NT4X38CA
Meridian M518 Add-on, BTS light-gray, made in Canada for U.S. sales	B0227486	NT4X38DA
Meridian M518 Add-on, Black, made in Canada for U.S. sales	B0227490	NT4X38HA
Meridian M518 Add-on, Chameleon-gray, made in USA for U.S. sales	B0227487	NT4X38EA
Meridian M518 Add-on, BTS light-gray, made in USA for U.S. sales	B0227488	NT4X38FA
Meridian M518 Add-on, Black, made in USA for U.S. sales	B0227491	NT4X38JA
Card, Directory	P0697541	P0697541
Card, Installation (English)	P0700907	P0700907
Card, Installation (French)	P0700908	P0700908
Card, Key Button Labels	P0660224	P0660224
Common Quick Card (English)	P0695351	P0695351
Common Quick Card (French)	P0695352	P0695352
Label, Button	P0637673	P0637673
Label, Button Cover, Clear	P0637674	P0637674
Desk Organizer (junctioning detail)	P0700615	P0700615
Line Cord, silver-gray, 2.3 m (7.5 ft) long	A0274382	NE-D6QT-87
Jumper Line Cord (to interconnect between set and add-ons), silver-gray, 370 mm (1.2 ft) long	A0352901	NPS50318-04,L5
Transformer Assembly - equipped with T-connector	A0329941	NPS50220-08,L4
Transformer Assembly - equipped with I-connector	A0346828	NPS50220-08,L6

Label, Button	1-007p 2	P0637673
Label, Button Cover, Clear	P0637674	P0637674
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