SHARED MEMORY STRUCTURE:

The main program "XRF_Scanner" generates six shared memory segments used to communicate
with the other 8 programs. The dimensions of the segments are univocally defined in
the file ../Shm.h for all programs to avioid conflicts.

SHARED MEMORY SEGMENTS:

SHARED_MEMORY_CMD: -> used to send commands and storage application and data
status
KEY_CMD = 6900   present in all programs
DIMENSION: 2048

SHARED_MEMORY: ->
KEY = 7000
DIMENSION: 204800

SHARED_MEMORY2:   -> used for storing maps by XRF_SCANNER (file:
ScanYX_XY.cpp,
KEY_2 = 7200   mainwindow_loadSHM.cpp) by ADCXRF
DIMENSION: 122880000

SHARED_MEMORY3:   -> used to show maps present in mainwindow_loadSHM.cpp
KEY_3 = 7300   mainwindow_mouse.cpp
DIMENSION: 122880000

SHARED_MEMORY4:   -> used by digitiser interface to send commands to the CAEN
5780
KEY_4 = 7400   digitiser. Parameters are used by ADCXRF_Optical_Link and
DIMENSION: 2048   ADXRF_USB programs.

SHARED_MEMORY_RATE: -> used by digitiser send commands DAQ rate to ratemeter
KEY_4 = 7500   used by ADCXRF_Optical_Link, ADXRF_USB and rate programs.
DIMENSION: 128

SHARED_MEMORY_CMD STRUCTURE (from XRF_Scanner/SHM_Creator.cpp):

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shared_memory_cmd              -> XY motor             -> STATUS
shared_memory_cmd+1            -> Z motor              -> STATUS
(shared_memory_cmd+2)          -> serials (not used)   -> STATUS

shared_memory_cmd+10           -> X Port               -> ASSIGNMENT
shared_memory_cmd+11           -> Y Port               -> ASSIGNMENT
shared_memory_cmd+12           -> Z Port               -> ASSIGNMENT

shared_memory_cmd+20           -> X motor (not used)   -> STATUS
shared_memory_cmd+21           -> Y motor (not used)   -> STATUS
shared_memory_cmd+22           -> Z motor (not used)   -> STATUS

shared_memory_cmd+30           -> X motor inited       -> STATUS
shared_memory_cmd+31           -> Y motor inited       -> STATUS
shared_memory_cmd+32           -> Z motor inited       -> STATUS

shared_memory_cmd+40           -> X[point] scan        -> POSITION
shared_memory_cmd+41           -> Y[point] scan        -> POSITION
shared_memory_cmd+42           -> Z                    -> POSITION
shared_memory_cmd+43           -> Integral[point] DAQ  -> INTEGRAL

shared_memory_cmd+50           -> Xmin                 -> POSITION
shared_memory_cmd+51           -> Xmax                 -> POSITION
shared_memory_cmd+52           -> Ymin                 -> POSITION
shared_memory_cmd+53           -> Ymax                 -> POSITION
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shared_memory_cmd+54          -> Zmin                -> POSITION
shared_memory_cmd+55          -> Zmax                -> POSITION

shared_memory_cmd+60          -> X step              -> PARAMETER
shared_memory_cmd+61          -> Y step              -> PARAMETER
shared_memory_cmd+62          -> Z step              -> PARAMETER
shared_memory_cmd+64          -> X movement          -> POSITION
shared_memory_cmd+65          -> Y movement          -> POSITION
shared_memory_cmd+66          -> Z movement          -> POSITION

shared_memory_cmd+70          -> VME/ADCXRF          -> PROGRAM STATUS
shared_memory_cmd+71          -> XRF SPECTRUM        -> PROGRAM STATUS
shared_memory_cmd+72          -> Digitiser_interface -> PROGRAM STATUS
shared_memory_cmd+73          -> Rate meter          -> PROGRAM STATUS
shared_memory_cmd+74          -> Xray Table          -> PROGRAM STATUS
shared_memory_cmd+75          -> OnLineMap           -> PROGRAM STATUS
shared_memory_cmd+76          -> Motor test tool     -> PROGRAM STATUS
shared_memory_cmd+77          -> PI parameter table  -> PROGRAM STATUS

shared_memory_cmd+80          -> ADCXRF              -> PROGRAM PID
shared_memory_cmd+81          -> XRF SPECTRUM        -> PROGRAM PID
shared_memory_cmd+82          -> Digitiser_interface -> PROGRAM PID
shared_memory_cmd+83          -> Rate Meter          -> PROGRAM PID
shared_memory_cmd+84          -> Xray Table          -> PROGRAM PID
shared_memory_cmd+85          -> OnLineMap           -> PROGRAM PID
shared_memory_cmd+86          -> Motor test tool     -> PROGRAM PID
shared_memory_cmd+87          -> PI parameter table  -> PROGRAM PID
```