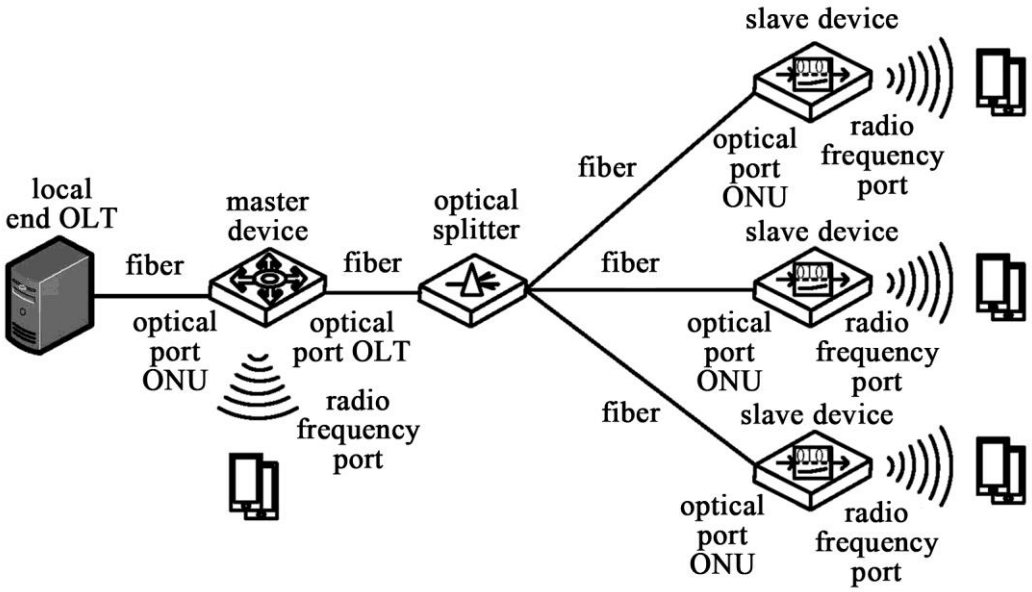

local
end OLT
fiber
master
device
fiber
optical
splitter
fiber
slave device
optical
port
ONU
radio
frequency
port
optical
port
ONU
optical
port OLT
radio
frequency
port
fiber
slave device
optical
port
ONU
radio
frequency
port
fiber
slave device
optical
port
ONU
radio
frequency
port

Fig. 1

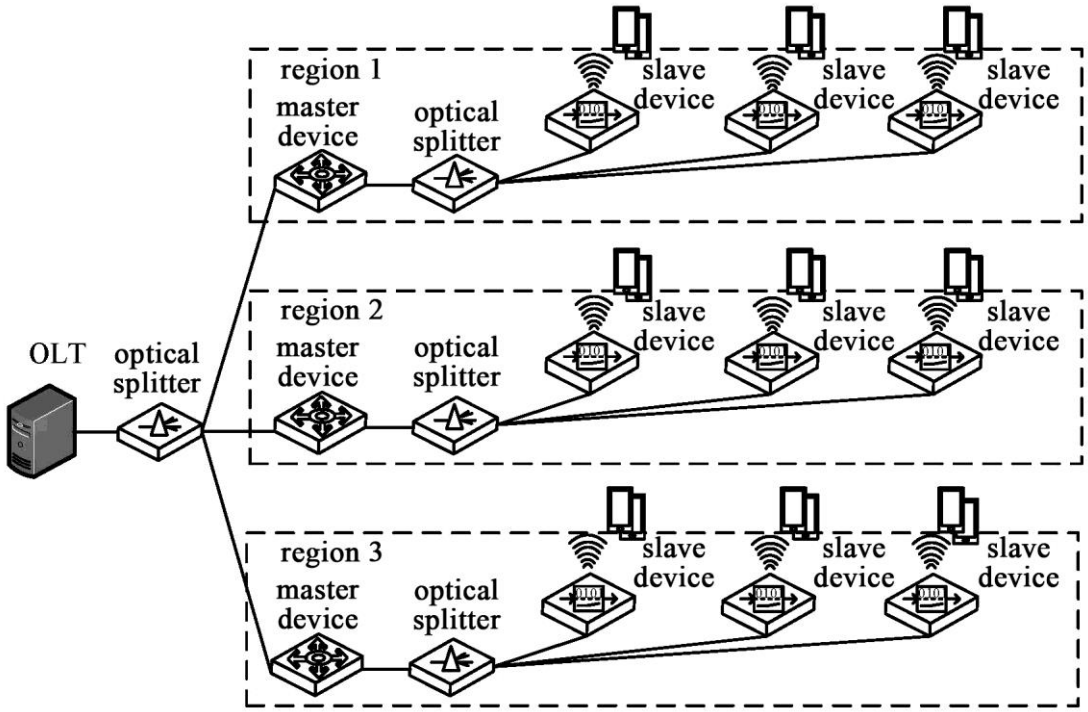

OLT
optical
splitter
region 1
master
device
optical
splitter
slave
device
slave
device
slave
device
region 2
master
device
optical
splitter
slave
device
slave
device
slave
device
region 3
master
device
optical
splitter
slave
device
slave
device
slave
device

Fig. 2

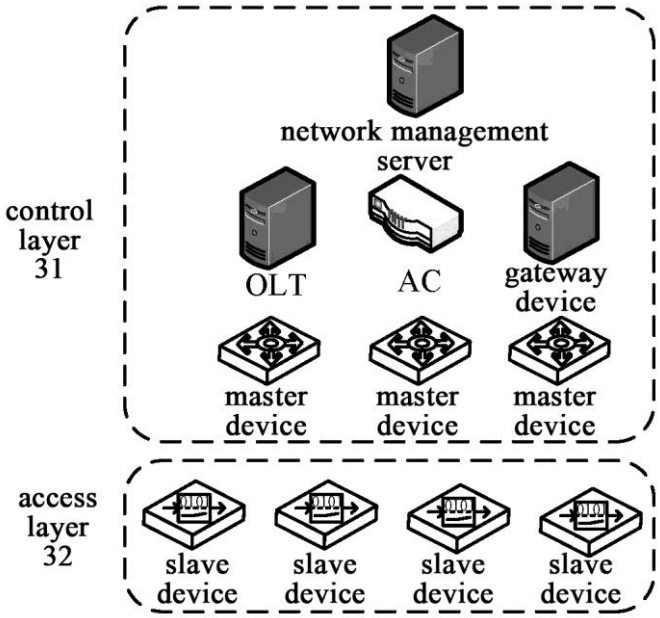

network management server
control layer 31
OLT
AC
gateway device
master device
master device
master device
access layer 32
slave device
slave device
slave device
slave device

Fig. 3

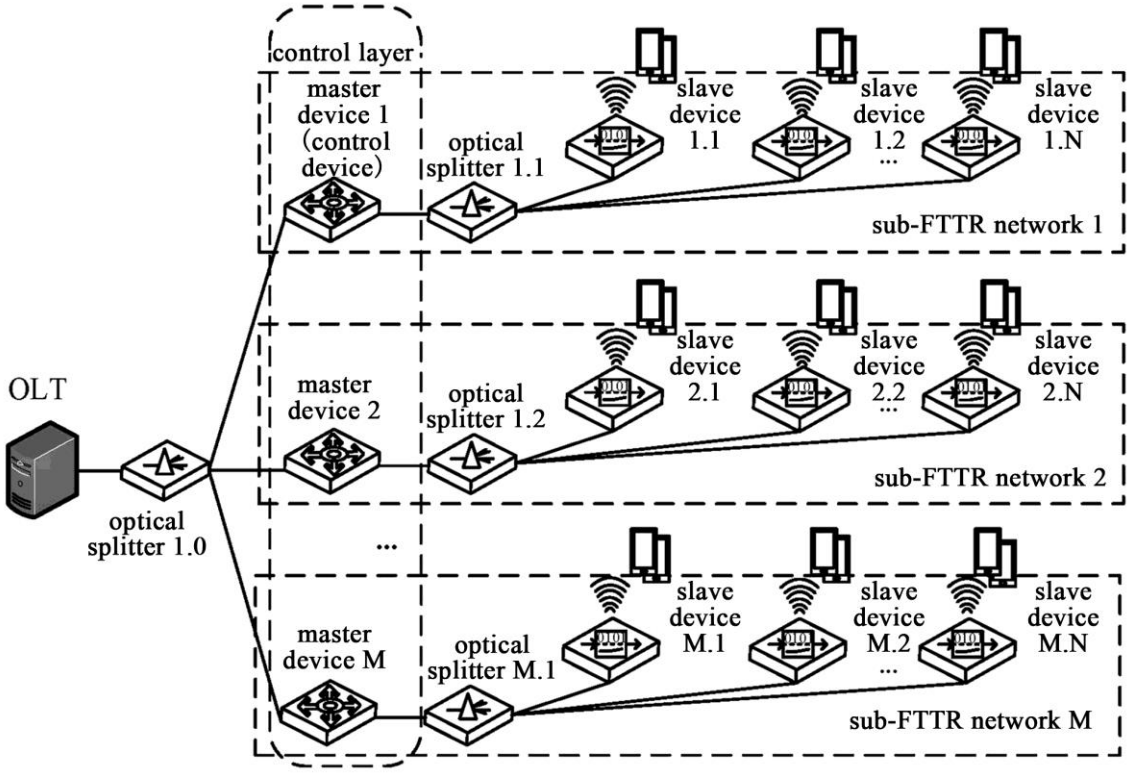

control layer
master device 1 (control device)
optical splitter 1.1
slave device 1.1
slave device 1.2
slave device 1.N
sub-FTTR network 1
OLT
optical splitter 1.0
master device 2
optical splitter 1.2
slave device 2.1
slave device 2.2
slave device 2.N
sub-FTTR network 2
master device M
optical splitter M.1
slave device M.1
slave device M.2
slave device M.N
sub-FTTR network M

Fig. 4a

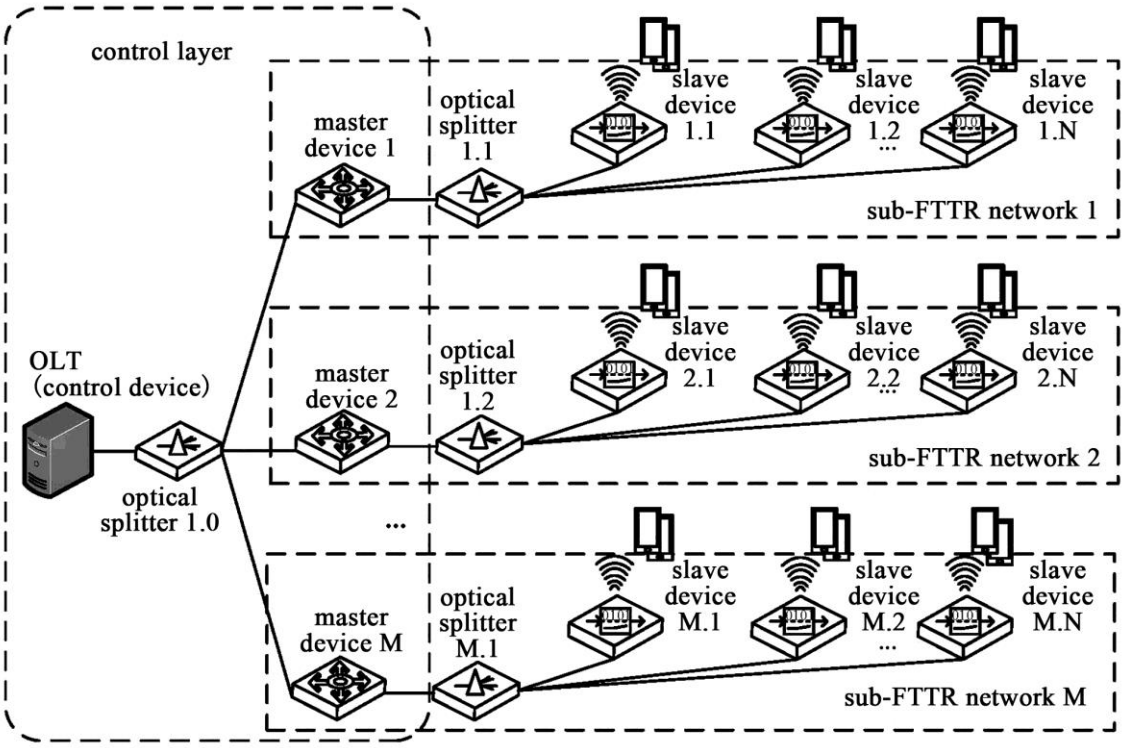

control layer
master device 1
optical splitter 1.1
slave device 1.1
slave device 1.2
slave device 1.N
sub-FTTR network 1
OLT (control device)
optical splitter 1.0
master device 2
optical splitter 1.2
slave device 2.1
slave device 2.2
slave device 2.N
sub-FTTR network 2
master device M
optical splitter M.1
slave device M.1
slave device M.2
slave device M.N
sub-FTTR network M

Fig. 4b

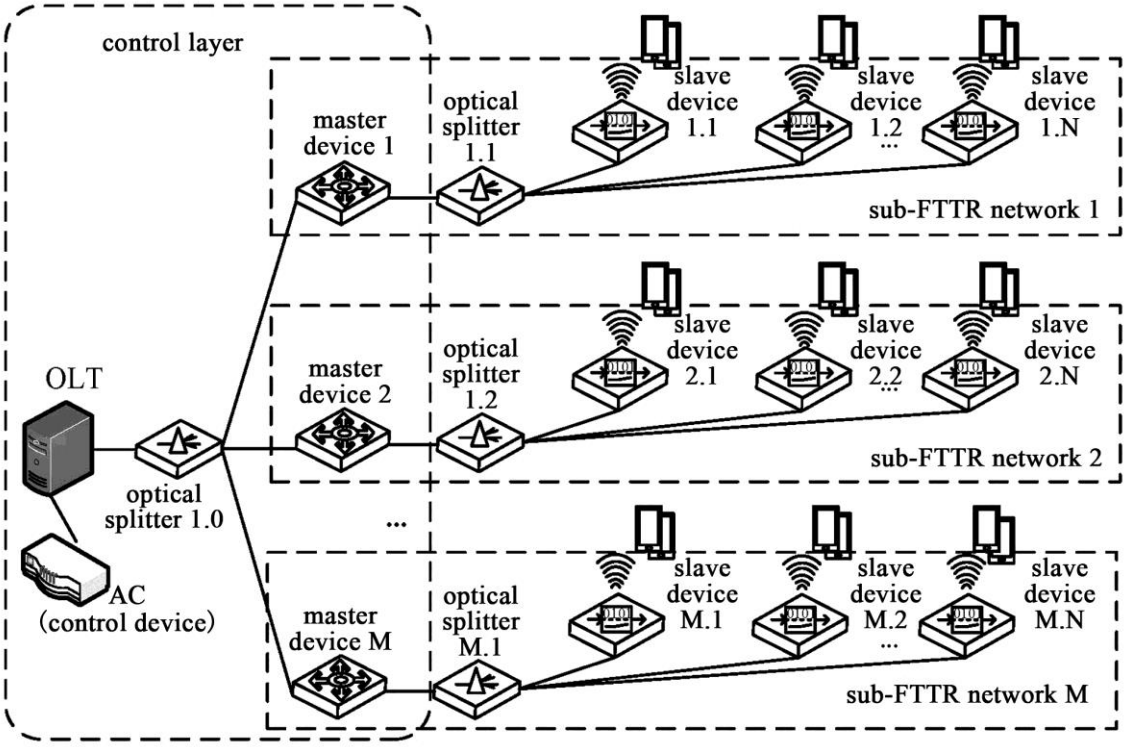

control layer
master device 1
optical splitter 1.1
slave device 1.1
slave device 1.2
slave device 1.N
sub-FTTR network 1
OLT
optical splitter 1.0
AC (control device)
master device 2
optical splitter 1.2
slave device 2.1
slave device 2.2
slave device 2.N
sub-FTTR network 2
master device M
optical splitter M.1
slave device M.1
slave device M.2
slave device M.N
sub-FTTR network M

Fig. 4c

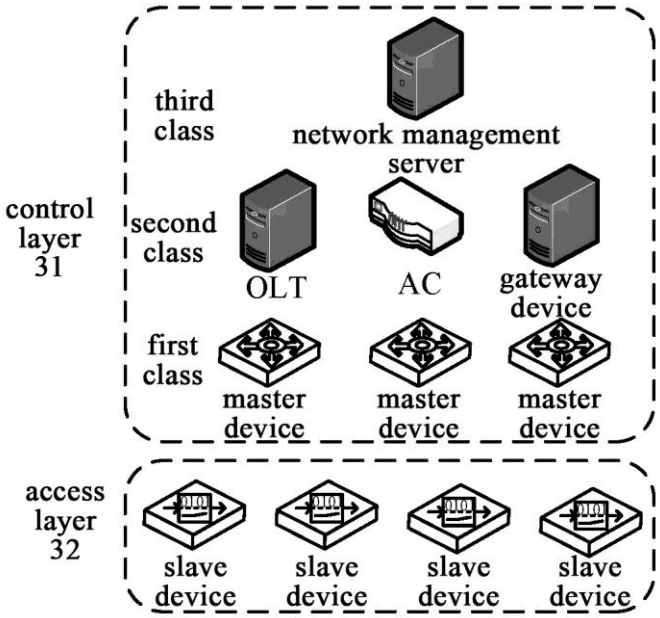


Fig. 5

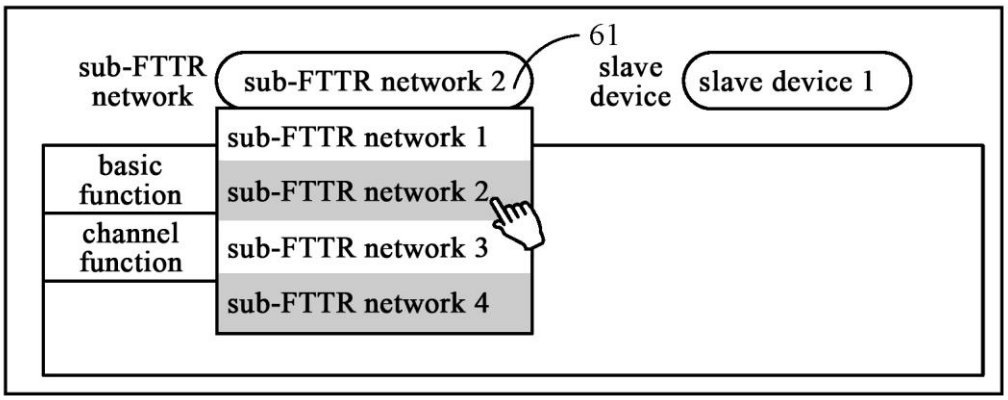


Fig. 6a

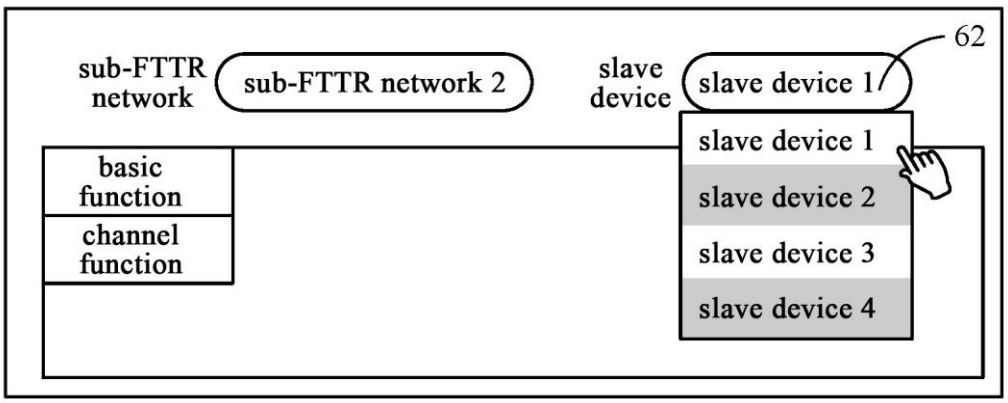


Fig. 6b

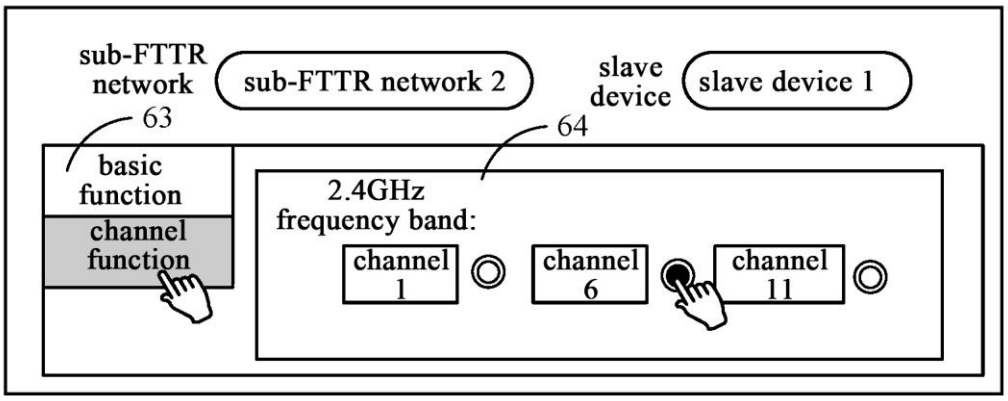


Fig. 6c

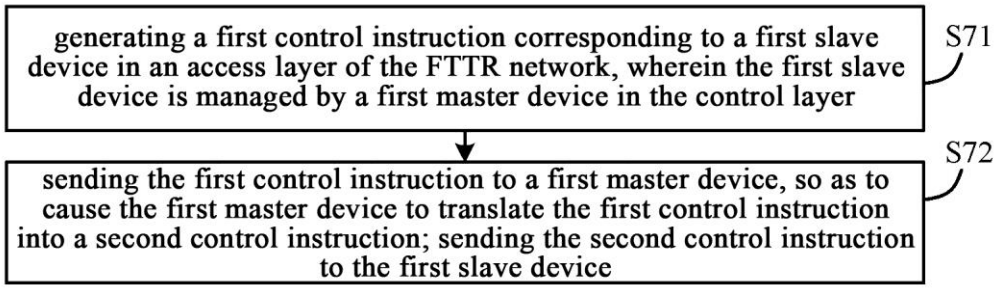


Fig. 7

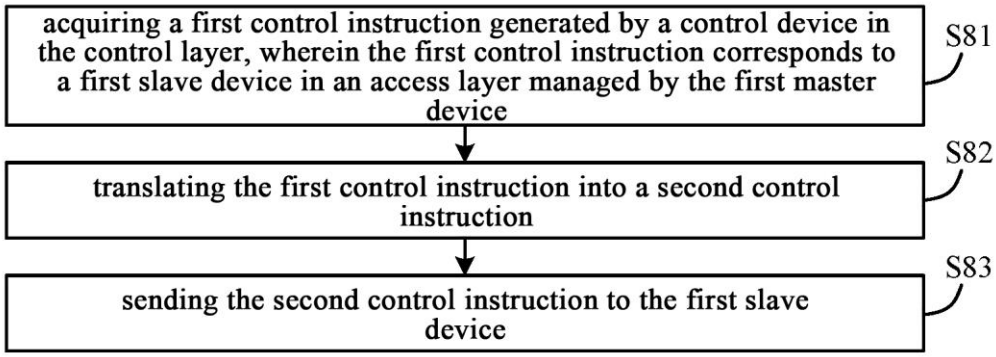


Fig. 8

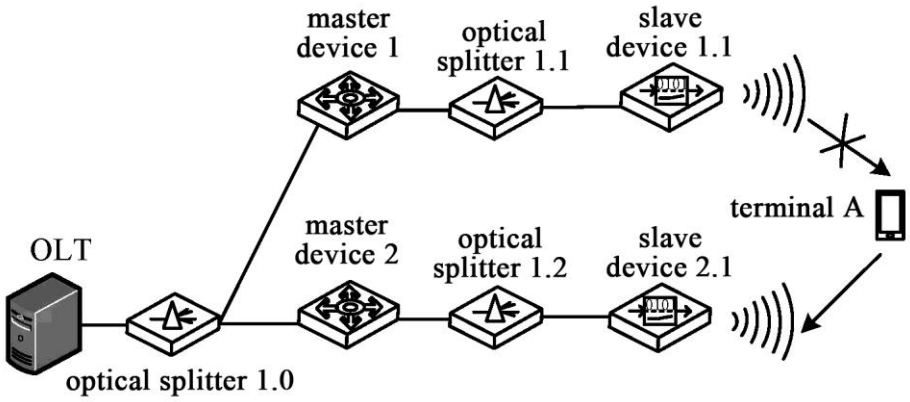


Fig.9

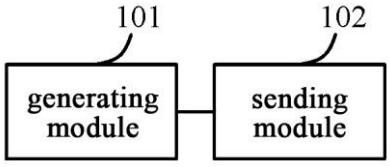


Fig. 10

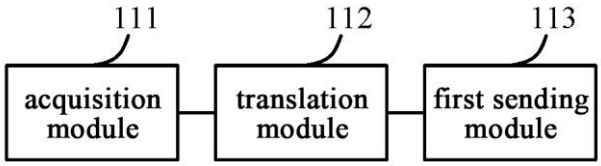


Fig. 11

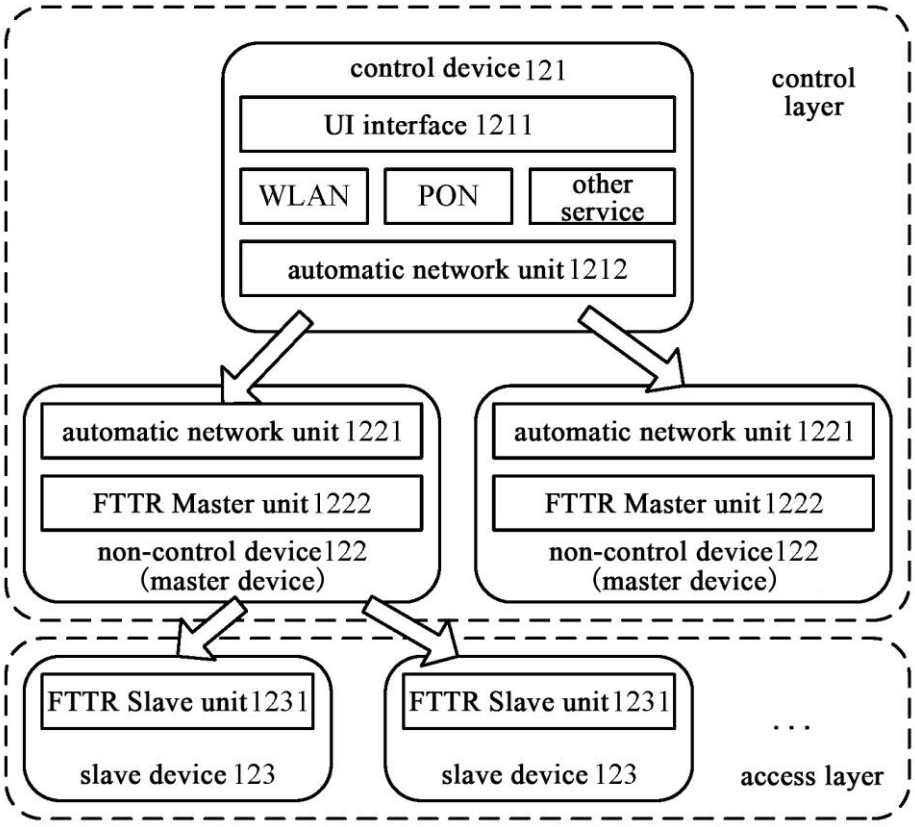


Fig. 12

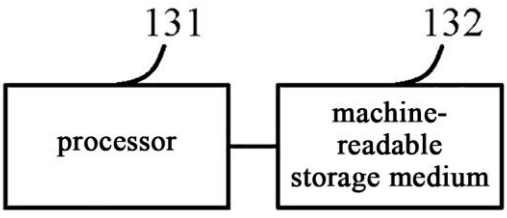


Fig. 13